

TDXTM SERIES WHEELCHAIRS

TDXTM 5

TDXTM 4

TDXTM 3

DEALER: THIS MANUAL MUST BE GIVEN TO THE USER OF THE WHEELCHAIR.

USER: BEFORE USING THIS WHEELCHAIR, READ THIS MANUAL AND SAVE FOR FUTURE REFERENCE.

For more information regarding
Invacare products, parts, and services,
please visit: www.invacare.com



Yes, you can.™

WARNING BEFORE INITIAL USE

A QUALIFIED TECHNICIAN MUST PERFORM THE INITIAL SET UP OF THIS WHEELCHAIR. ALSO, QUALIFIED TECHNICIAN MUST PERFORM ALL PROCEDURES IN THE SERVICE MANUAL.

WHEELCHAIR USERS: DO NOT SERVICE OR OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING (1) THE OWNER'S OPERATOR AND MAINTENANCE MANUAL (2) THE SEATING SYSTEMS MANUAL (IF APPLICABLE). IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS AND INSTRUCTIONS, CONTACT INVACARE TECHNICAL SUPPORT BEFORE ATTEMPTING TO SERVICE OR OPERATE THIS EQUIPMENT - OTHERWISE, INJURY OR DAMAGE MAY RESULT.

DEALERS AND QUALIFIED TECHNICIANS: DO NOT SERVICE OR OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING (1) THE OWNER'S OPERATOR AND MAINTENANCE MANUAL (2) THE SERVICE MANUAL (IF APPLICABLE) AND (3) THE SEATING SYSTEMS MANUAL (IF APPLICABLE). IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS AND INSTRUCTIONS, CONTACT INVACARE TECHNICAL SUPPORT BEFORE ATTEMPTING TO SERVICE OR OPERATE THIS EQUIPMENT - OTHERWISE, INJURY OR DAMAGE MAY RESULT.

SPECIAL NOTES

WARNING/CAUTION notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

WHEELCHAIR USER

As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection. Invacare highly recommends working with a certified rehab technology supplier and/or a member of NRRTS or RESNA.

RESTRAINTS - SEAT POSITIONING STRAPS

Invacare recommends that wheelchair users **NOT** be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.

It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation systems.

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REGISTER YOUR PRODUCT!

The benefits of registering:

1. Safeguard your investment.
2. Ensure long term maintenance and servicing of your purchase.
3. Receive updates with product information, maintenance tips, and industry news.
4. Invacare can contact you or your provider, if servicing is needed on your product.
5. It will enable Invacare to improve product designs based on your input and needs.

Register ONLINE at www.invacare.com

- or -

Complete and mail the form on the next page

Any registration information you submit will be used by Invacare Corporation only, and protected as required by applicable laws and regulations.



PRODUCT REGISTRATION FORM

Register **ONLINE** at www.invacare.com - or -
Complete and mail this form

Name _____

Address _____

City _____ State/Province _____

Zip/Postal Code _____

Email _____ Phone No. _____

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here

Invacare Model No. _____ Serial No. _____

Purchased From _____

1. Method of purchase: (check all that apply)

☐ Medicare ☐ Insurance ☐ Medicaid ☐ Other _____

2. This product was purchased for use by: (check one)

☐ Self ☐ Parent ☐ Spouse ☐ Other _____

3. Product was purchased for use at:

☐ Home ☐ Facility ☐ Other _____

4. I purchased an Invacare product because:

☐ Price ☐ Features (list features) _____

5. Who referred you to Invacare products? (check all that apply)

☐ Doctor ☐ Therapist ☐ Friend ☐ Relative ☐ Other _____

☐ No referral ☐ Advertisement (circle one): TV, Radio, Magazine, Newspaper

6. What additional features, if any, would you like to see on this product?

Fold
here

7. Would you like information sent to you about Invacare products that may be available for a particular medical condition? ☐ Yes ☐ No

If yes, please list any condition(s) here and we will send you information by email and/or mail about any available Invacare products that may help treat, care for or manage such condition(s):

8. Would you like to receive updated information via email or regular mail about the Invacare home medical products sold by Invacare's dealers? ☐ Yes ☐ No

9. What would you like to see on the Invacare website?

10. Would you like to be part of future online surveys for Invacare products? ☐ Yes ☐ No

11. User's Year of birth: _____

If at any time you wish not to receive future mailings from us, please contact us at Invacare Corporation, CRM Department, 39400 Taylor Parkway, Elyria, OH 44035, or fax to 877-619-7996 and we will remove you from our mailing list.

To find more information about our products, visit www.invacare.com.

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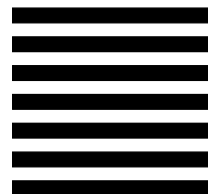
BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 196 ELYRIA OH

POSTAGE WILL BE PAID BY ADDRESSEE

INVACARE CORPORATION
CRM DEPARTMENT
39400 TAYLOR PARKWAY
ELYRIA OH 44035-9836

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



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Invacare Product Registration Form

Please Seal with
Tape Before Mailing

SPECIFICATIONS FOR STORM TDX 5

Seat Width Range:	ADULT (Fixed Width)	JUNIOR (Adjustable Width)
Adjustable Seat Back Angle (ASBA)	16 to 24-inches	12 to 15-inches
Seat Depth Range: (in 1-inch increments)	16 to 22-inches	12 to 16-inches
Back Height Range:	12 to 24-inches	
Back Angle Range:	80° to 100° in 5° increments	
Seat-to-Floor (approximate)		
Standard:	17-inches @ 5°	
Medium:	19-inches @ 5°	
Tall:	21-inches @ 5°	
Overall Width of Base:	25-inches (w/o joystick)	
Overall Height		
ASBA Frame: 0° Seat Angle, 16-inch High Back		
Standard:	33-1/4-inches	
Medium:	35-1/4-inches	
Tall:	37-1/4-inches	
Overall Length:	35-1/4-inches w/o front rigging 42.9-inches w/center mount front rigging, 0° Seat Angle	
Weight		
True Track HD Motor Package		
W/O GP24 Batteries:	208 lbs.	
With two (2) GP24 Batteries:	310 lbs.	
Drive Axle:	Non-Adjustable	
Drive Wheels/Tires: (Foam Filled or Pneumatic)		
Standard:	14 x 3-inches	
PHYSICAL DIMENSIONS		
Casters w/Precision Sealed Bearings		
Semi-Pneumatic (4 Casters)		
Standard:	6 x 2-inches	

NOTE: All dimensions are $\pm 1/2$ -inch.

SPECIFICATIONS FOR STORM TDX 5

Armrests: Flip Back, Fixed or Adjustable Height (Desk and Full Length)

Battery Requirements: Use MK p/n M24SLDG or p/n M22NFSLDG batteries only

Chair Upholstery Options: Nylon

Electronics: MK5™ TT-EX™ with MK5™ MPJ™ Joystick

Front Riggings: Center Mount and Swingaway Styles

Footrests: Swingaway Style, Telescoping Front Rigging Supports, 2-in. and 4-in. long
Pivot Slide Tube, Manually Elevating, Power Elevating.

Seat Tilt Angle Adjustment: Adjustable (0° to 10°)

Seat Cushion: Cushion (Optional)

Weight Limitation: up to 400 lbs.

SPECIFICATIONS - STORM TDX 4

Seat Width Range	ADULT (Fixed Width)	JUNIOR (Adjustable Width)
Adjustable Seat Back Angle (ASBA): *22-inch maximum width with standard motor	16 to 24*-inches	12 to 15-inches
Seat Depth Range: (in 1-inch increments)	16 to 22-inches	12 to 16-inches
Back Height Range:	12 to 24-inches	
Back Angle Range: Standard:	80° to 100° in 5° increments	
Seat-to-Floor (approximate) Standard: Medium: Tall:	17-inches @ 5° 19-inches @ 5° 21-inches @ 5°	
Overall Width of Base:	25-1/2-inches (w/o joystick)	
Overall Height ASBA: (0° Seat Angle, 16-inch High Back) Standard: Medium: Tall:	33-1/4-inches 35-1/4-inches 37-1/4-inches	
Overall Length:	35-1/4-inches w/o front rigging 42.9-inches w/ center mount Front Rigging, 0° Seat Angle	
Weight: 4 Pole Motor: W/O GP24 Batteries: With two (2) GP24 Batteries:	186 lbs. 290 lbs.	
Drive Axle: Drive Wheels/Tires: (Foam Filled or Pneumatic)	Non-Adjustable 14 x 3-inches	
Physical Dimensions Casters w/Precision Sealed Bearings Semi-Pneumatic (4 Casters) Standard:	6 x 2-inches	

NOTE: All dimensions are ± 1/2-inch.

SPECIFICATIONS - TDX 4

Armrests: Flip Back, Fixed or Adjustable Height (Desk and Full Length)

Battery Requirements: Use MK p/n M24SLDG or p/n M22NFSLDG batteries only

Chair Upholstery Options: Nylon

Electronics: MK5™ EX™ with MK5™ DPJ™ Joystick

Front Riggings: Center Mount and Swingaway Styles

Footrests: Swingaway Style, Telescoping Front Rigging Supports, 2-in. and 4-in. long
Pivot Slide Tube, Manually Elevating, Power Elevating.

Seat Tilt Angle Adjustment: Adjustable (0° to 10°)

Seat Cushion: Cushion (Optional)

Weight Limitations: up to 300 lbs.

SPECIFICATIONS FOR STORM TDX 3

Seat Width Range: Adjustable Seat Back Angle (ASBA) *22-inch maximum width with standard motor	ADULT 16 to 24*-inches	JUNIOR 12 to 15-inches
Seat Depth Range: (in 1-inch increments)	16 to 22-inches	12 to 16-inches
Back Height Range:	12 to 24-inches	
Back Angle Range:	80° to 100° in 5° increments	
Seat-to-Floor (approximate) Standard: Medium: Tall:	17-inches @ 5° 19-inches @ 5° 21-inches @ 5°	
Overall Width of Base:	25-inches (w/o joystick)	
Overall Height: ASBA: (0° Seat Angle, 16-inch High Back) Standard: Medium: Tall:	33-1/4-inches 35-1/4-inches 37-1/4-inches	
Overall Length:	35-1/4-inches w/o front rigging 42.9-inches w/ center mount Front Rigging, 0° Seat Angle	
Weight 4 Pole Motor W/O 22NF Batteries: With two (2) 22NF Batteries:	166 lbs. 260 lbs.	
Drive Axle: Drive Wheels/Tires: (Foam Filled or Pneumatic) Standard:	Non-Adjustable 12-1/2 x 2-1/4-inches	
Physical Dimensions: Casters w/Precision Sealed Bearings Semi-Pneumatic: Standard:	6 x 2-inches	

NOTE: All dimensions are $\pm 1/2$ -inch.

SPECIFICATIONS FOR STORM TDX 3

Armrests: Flip Back, Fixed or Adjustable Height (Desk and Full Length)

Battery Requirements: Use MK p/n M22NFSLDG batteries only.

Caster Forks: Standard, two side fork, one sided fork is optional.

Chair Upholstery Options: Nylon

Electronics: MK5™ NX™ -80 with MK5™ SPJ™ - 80 Joystick

Front Riggings: Center Mount and Swingaway Styles

Footrests: Swingaway Style, Telescoping Front Rigging Supports, 2-in. and 4-in.
longer Pivot Slide Tube, Manually Elevating, Power Elevating.

Seat Tilt Angle Adjustment: Adjustable (0° to 10°)

Seat Cushion: Cushion (Optional)

Weight Limitations: up to 300 lbs.

This Section Includes the Following:

Repair or Service Information Operating Information Safety/Handling of Wheelchairs

REPAIR OR SERVICE INFORMATION

Setup of the Electronic Control Unit is to be performed **ONLY** by individuals certified by Invacare. The final tuning adjustments of the controller may affect other activities of the wheelchair. Damage to the equipment could occur under these circumstances. If non-certified individuals perform any work on these units, the Limited Warranty is void.

OPERATING INFORMATION

GENERAL WARNINGS

Professionals of the healthcare field or other persons should only make performance adjustments fully conversant with this process and the wheelchair operator's capabilities. Incorrect settings could cause injury to the driver, bystanders, damage to the chair and to surrounding property.

After the wheelchair has been set up/adjusted, check to make sure that the wheelchair performs to the specifications entered during the setup procedure. If the wheelchair does **NOT** perform to specifications, turn the wheelchair **OFF** immediately and reenter setup specifications. Repeat this procedure until the wheelchair performs to specifications.

DO NOT leave the power button **ON** when entering or exiting your wheelchair.

DO NOT attempt to drive over curbs or obstacles greater than 3-inches for TDX 5 and TDX 4 or greater than 2-inches for TDX 3. Doing so may cause your wheelchair to turn over and cause bodily harm or damage to the chair. Always stop before climbing an obstacle. Approach slowly until casters contact the obstacle. Apply power and the action of the Sure-Step™ feature will lift the casters over the obstacle. Weight is transferred to the drive wheels providing traction and motor strength to power the wheelchair over the obstacle.

ELECTRICAL

Grounding Instructions:

DO NOT, under any circumstances, cut or remove the round grounding prong from any plug used with or for Invacare products. Some devices are equipped with three-prong (grounding) plugs for protection against possible shock hazards. Where a two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the customer to contact a qualified electrician and have the two-prong receptacle replaced with a properly grounded three-prong wall receptacle in accordance with the National Electrical Code. If you must use an extension cord, use **ONLY** a three-wire extension cord having the same or higher electrical rating as the device being connected. In addition, Invacare has placed **RED/ORANGE WARNING TAGS** on some equipment. **DO NOT** remove these tags.

BATTERIES

The warranty and performance specifications contained in this manual are based on the use of deep cycle gel cell or sealed lead acid batteries. Invacare strongly recommends their use as the power source for this unit.

Carefully read battery/battery charger information prior to installing, servicing or operating your wheelchair.

RAIN TEST

INVACARE has tested its power wheelchairs in accordance with ISO 7176 "Rain Test". This provides the end user or his/her attendant sufficient time to remove his/her power wheelchair from a rain storm and retain wheelchair operation.

CAUTION

Failure to follow these instructions will void your limited warranty.

Do determine and establish your particular safety limits by practicing bending, reaching and transferring activities in the presence of a qualified healthcare professional **BEFORE** attempting active use of the wheelchair.

DO NOT attempt to reach objects if you have to move forward in your seat.

DO NOT attempt to reach objects if you have pick them up from the floor by reaching between your knees.

DO NOT lean over the top of the back upholstery to reach objects from behind, as this may cause the wheelchair and/or seating system (if any) to tip over.

DO NOT shift your weight or sitting position toward the direction you are reaching as the wheelchair and/or seating system (if any) may tip over.

DO NOT use and escalator to move a wheelchair between floors. Serious bodily injury may occur.

CAUTION

Wheel Locks are **NOT** brakes. **DO NOT** attempt to stop a moving wheelchair with the wheel locks.

DO NOT service or adjust your wheelchair while occupied, unless otherwise noted.

DO NOT operate on roads, streets or highways.

DO NOT climb, go up or down ramps or traverse slopes greater than 9°.

DO NOT attempt to move up or down an incline that has a water, ice or oil film.

DO NOT use with broken or missing joystick knob.

DO NOT use if joystick does not spring back to the neutral position or becomes sticky or sluggish.

CAUTION

For safe product function, material compatibility, proper installation, operation and maintenance, you must only use parts, accessories and adapters manufactured or supplied by Invacare. **DO NOT** use any other parts, accessories, or adapters.

DO NOT stand on the frame of the wheelchair.

DO NOT use the footplates as a platform. When getting in or out of the wheelchair, make sure that the footplates are in the upward position or swing footplates toward the outside of the wheelchair.

DO NOT attempt to drive over curbs or obstacles, unless your wheelchair has a climbing feature. Doing so may cause your wheelchair to turn over and cause bodily harm or damage to the chair.

WARNING

Never leave an unoccupied wheelchair unattended at any time, especially on an incline.

DO NOT attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

ALWAYS DO keep hands and fingers clear of moving parts to avoid injury.

ALWAYS DO wear your seat positioning strap.

ALWAYS DO check foam grips for looseness before using the wheelchair. If loose, contact a qualified technician for instructions.

ALWAYS DO engage both wheel locks **AND** reduce the gap distance **BEFORE** transferring to and from the wheelchair. Turn all casters toward the object you are transferring onto.

WEIGHT TRAINING WARNING

Invacare **DOES NOT** recommend the use of its wheelchairs and seating systems as a apparatus for weight training. Invacare wheelchairs and seating systems have **NOT** been designed or tested as a seat for any kind of weight training. If you use the wheelchair or seating system for weight training, **INVACARE SHALL NOT BE LIABLE FOR BODILY INJURY AND THE LIMITED WARRANTY IS VOID.**

TIRE PRESSURE WARNING

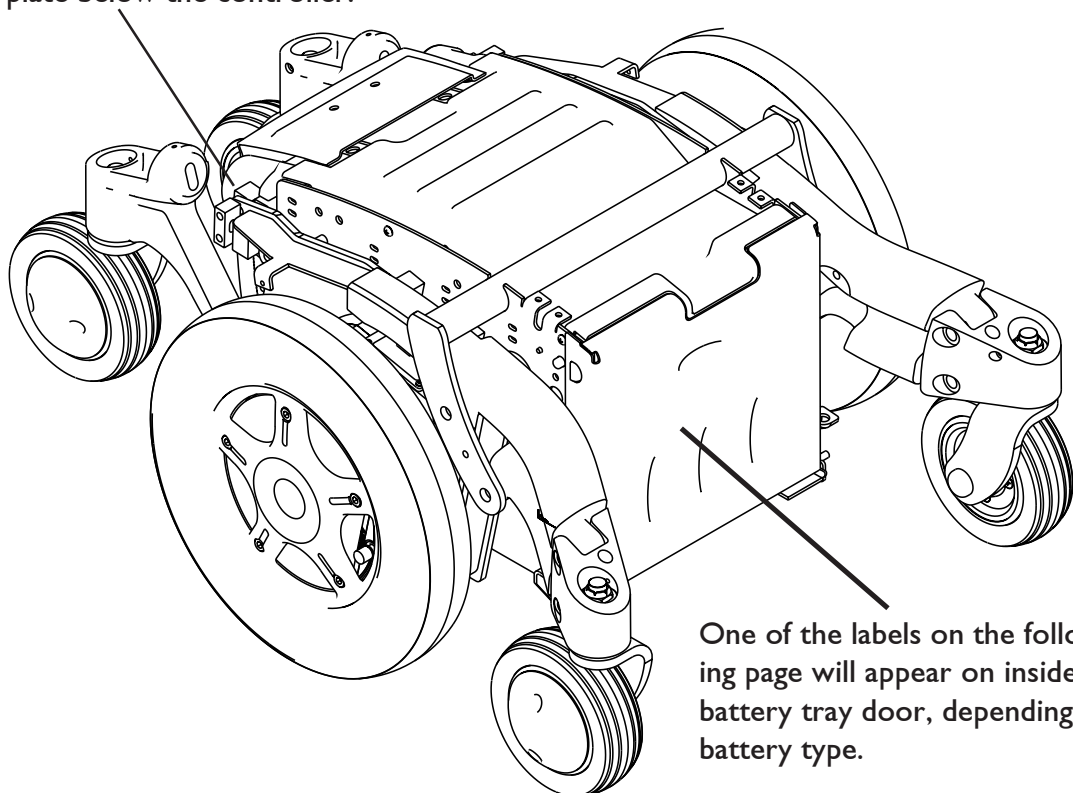
The recommended tire pressure is listed on the side wall of each tire. **DO NOT** use your wheelchair unless it has the proper tire pressure. (P.S.I.). **DO NOT** overinflate the tires. A qualified technician **MUST** perform replacement of a pneumatic tire or tube. Failure to follow these warnings may cause the tire to explode and cause bodily harm.

CAUTION: WEIGHT LIMITATION

Please refer to **SPECIFICATIONS** to determine the weight limit (total combined weight of user and any attachments) of your wheelchair model. Do not exceed the limit- otherwise, injury or damage may result.

LABEL LOCATION

Serial Number Label is located on a plate below the controller.



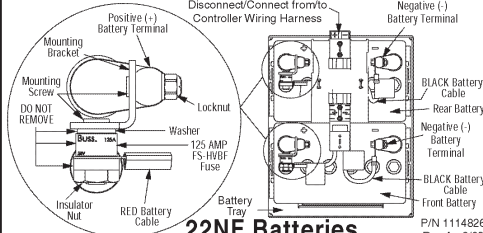
LABEL LOCATION (CONTINUED)

⚠ WARNING

Wiring Diagram and Battery Remove/Install for 22nf Batteries
DO NOT REMOVE THIS LABEL

The POSITIVE (+) RED Battery Cable MUST connect to the POSITIVE (+) Battery Terminal(s)/ Post(s). The NEGATIVE (-) BLACK Battery Cable MUST connect to the NEGATIVE (-) Battery Terminal(s)/Post(s). DO NOT allow Battery Cable(s) to contact the opposite Battery Terminal(s)/Post(s). Install protective caps on positive and negative battery terminals. Replace cable(s) immediately if cable(s) insulation becomes damaged. Failure to observe these warnings may result in an electrical short with serious personal injury and/or damage to the electrical system. See Owner's Manual, part number 1114809.

DO NOT remove fuse or mounting hardware from POSITIVE (+) RED battery cable mounting screw.



22NF Batteries

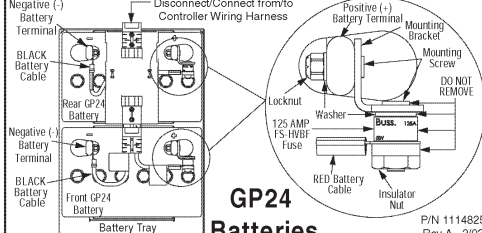
P/N 1114826
Rev A - 2/03

⚠ WARNING

Wiring Diagram and Battery Install/Remove for GP24 Batteries
DO NOT REMOVE THIS LABEL

The POSITIVE (+) RED Battery Cable MUST connect to the POSITIVE (+) Battery Terminal(s)/ Post(s). The NEGATIVE (-) BLACK Battery Cable MUST connect to the NEGATIVE (-) Battery Terminal(s)/Post(s). DO NOT allow Battery Cable(s) to contact the opposite Battery Terminal(s)/Post(s). Install protective caps on positive and negative battery terminals. Replace cable(s) immediately if cable(s) insulation becomes damaged. Failure to observe these warnings may result in an electrical short with serious personal injury and/or damage to the electrical system. See Owner's Manual, part number 1114809.

DO NOT remove fuse or mounting hardware from POSITIVE (+) RED battery cable mounting screw.



GP24 Batteries

P/N 1114825
Rev A - 2/03

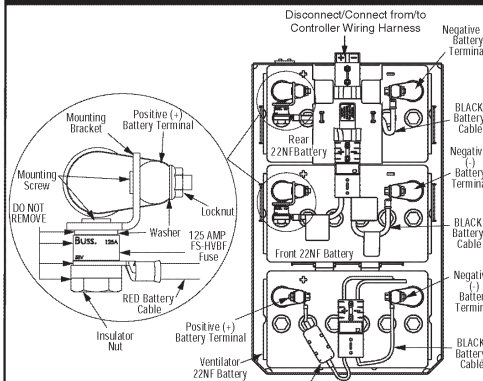
WHEELCHAIRS EQUIPPED WITH VENT TRAY ONLY

⚠ WARNING

The POSITIVE (+) RED Battery Cable MUST connect to the POSITIVE (+) Battery Terminal(s)/ Post(s). The NEGATIVE (-) BLACK Battery Cable MUST connect to the NEGATIVE (-) Battery Terminal(s)/Post(s). DO NOT allow Battery Cable(s) to contact the opposite Battery Terminal(s)/Post(s). Install protective caps on positive and negative battery terminals. Replace cable(s) immediately if cable(s) insulation becomes damaged. Failure to observe these warnings may result in an electrical short with serious personal injury and/or damage to the electrical system. See Owner's Manual.

DO NOT remove fuse or mounting hardware from POSITIVE (+) RED battery cable mounting screw.

DO NOT REMOVE THIS LABEL



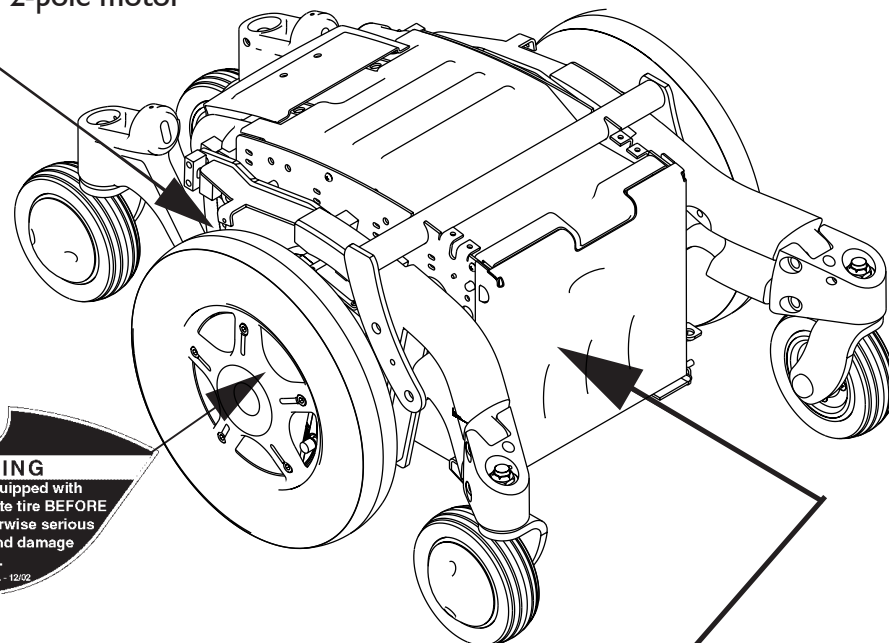
P/N 1114849 Rev A - 4/03

30 AMP TYP MIDI FUSE

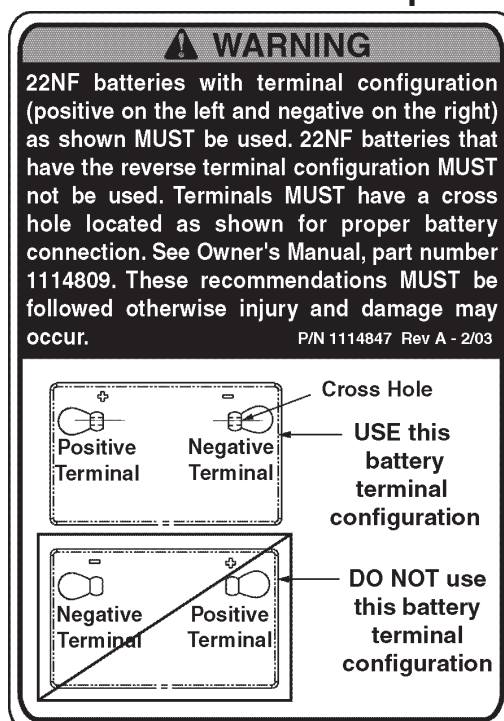
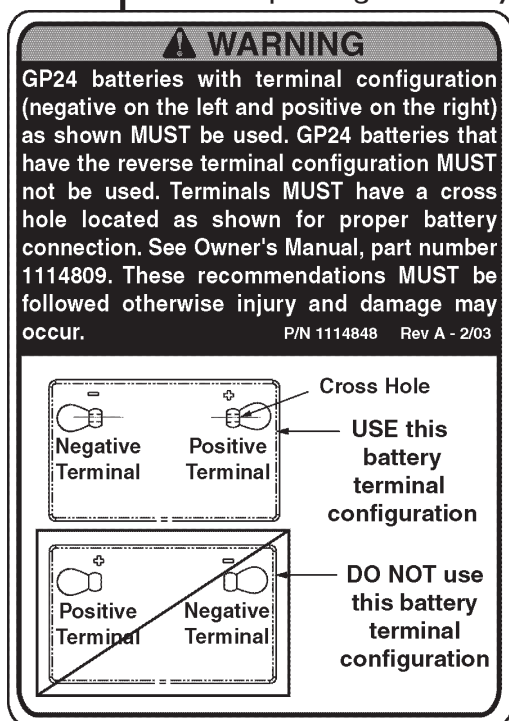
LABEL LOCATION (CONTINUED)



Located on each
2-pole motor

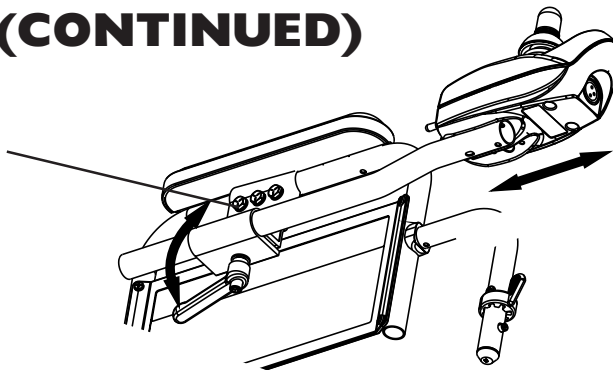


One of these labels will appear on inside of battery tray
door depending on battery type. .



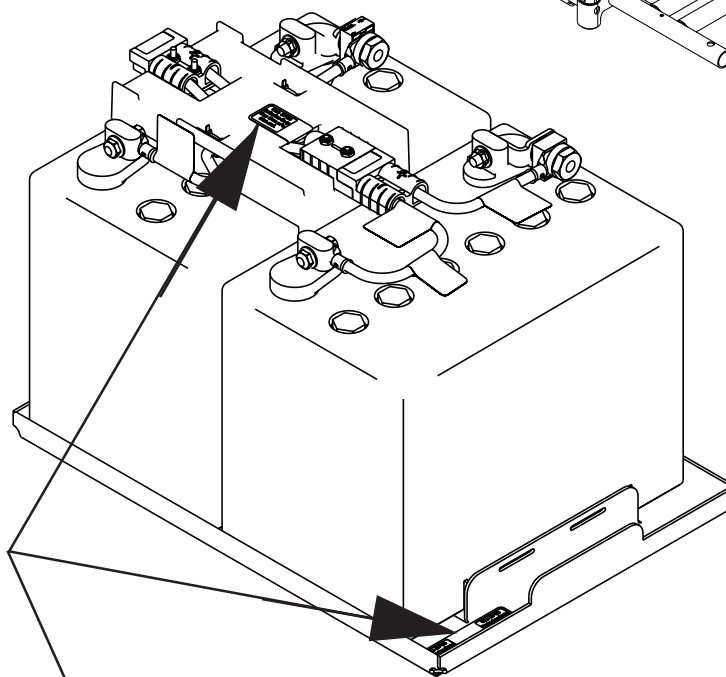
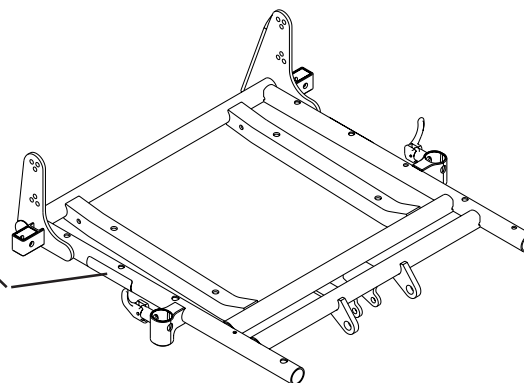
LABEL LOCATION (CONTINUED)

Weight Capacity
Label located here



WARNING Refer to Service Manual, p/n 1114819, to reposition the seat - otherwise serious personal injury and damage will result.

P/N 1114823
Rev A - 2/03



One of these labels will appear on the battery tray and the battery wiring connector bracket, depending on battery type.

Use GP24
Batteries Only.
See Owner's
Manual, p/n
1114809.

P/N 1118355
P/N 1118355
REV A - 2/03

Use GP24
Batteries Only.
See Owner's
Manual, p/n
1114809.

Use 22NF
Batteries Only.
See Owner's
Manual, p/n
1114809.

P/N 1118356
P/N 1118356
REV A - 2/03

Use 22NF
Batteries Only.
See Owner's
Manual, p/n
1114809.

SAFETY/HANDLING OF WHEELCHAIRS

“Safety and Handling” of the wheelchair requires the close attention of the wheelchair user as well as the assistant. This manual points out the most common procedures and techniques involved in the safe operation and maintenance of the wheelchair. It is important to practice and master these safe techniques until you are comfortable in maneuvering around the frequently encountered architectural barriers.

Use this information only as a “basic” guide. The techniques that are discussed on the following pages have been used successfully by many.

Individual wheelchair users often develop skills to deal with daily living activities that may differ from those described in this manual. Invacare recognizes and encourages each individual to try what works best for him/her in overcoming architectural obstacles that they may encounter, however ALL WARNINGS and CAUTIONS given in this manual **MUST** be followed. Techniques in this manual are a starting point for the new wheelchair user and assistant with “safety” as the most important consideration for all.

STABILITY AND BALANCE

WARNING

ALWAYS wear your seat positioning strap.

DO NOT climb, go up or down ramps or traverse slopes greater than 9°.

Invacare strongly recommends proceeding down ramps or slopes slowly to avoid hard braking or sudden stops.

DO NOT leave elevating legrests in the fully extended position when proceeding down ramps or slopes.

Be aware that carrying heavy objects on your lap while occupying the wheelchair may adversely effect the stability of the wheelchair resulting in serious bodily injury to the user, damage to the wheelchair and surrounding property.

Wheelchair is designed to accommodate one individual. If more than one individual occupies the wheelchair this may adversely effect the stability of the wheelchair resulting in serious bodily injury to the user and passenger, damage to the wheelchair and surrounding property.

To assure stability and proper operation of your wheelchair, you must at all times maintain proper balance. Your wheelchair has been designed to remain upright and stable during normal daily activities as long as you do not move beyond the center of gravity. **DO NOT** lean forward out of the wheelchair any further than the length of the armrests.

COPING WITH EVERYDAY OBSTACLES

Coping with the irritation of everyday obstacles can be alleviated somewhat by learning how to manage your wheelchair. Keep in mind your center of gravity to maintain stability and balance.

A NOTE TO WHEELCHAIR ASSISTANTS

When assistance to the wheelchair user is required, remember to use good body mechanics. Keep your back straight and bend your knees whenever tilting the wheelchair or traversing curbs, or other impediments.

Also, be aware of detachable parts such as arms or leg-rests. These must NEVER be used for hand-hold or lifting supports, as they may be inadvertently released, resulting in possible injury to the user and/or assistant(s).

When learning a new assistance technique, have an experienced assistant help you before attempting it alone.

PERCENTAGE OF WEIGHT DISTRIBUTION**WARNING**

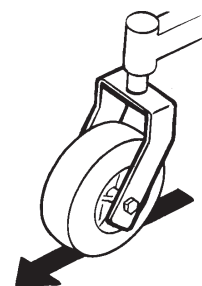
DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Many activities require the wheelchair user to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to normal balance, center of gravity, and weight distribution of the wheelchair. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional **BEFORE** attempting active use of the wheelchair.

Proper positioning is essential for your safety. When reaching, leaning, bending or bending forward, it is important to use the casters as a tool to maintain stability and balance.

REACHING, LEANING, BENDING AND BENDING - FORWARD

Position the casters so that they are extended away from the drive wheels and engage wheel locks. **DO NOT ATTEMPT TO REACH OBJECTS IF YOU HAVE TO MOVE FORWARD IN THE SEAT OR PICK THEM UP FROM THE FLOOR BY REACHING DOWN BETWEEN YOUR KNEES.**

**REACHING, BENDING - BACKWARD****WARNING**

DO NOT lean over the top of the back upholstery. This will change your center of gravity and may cause you to tip over.

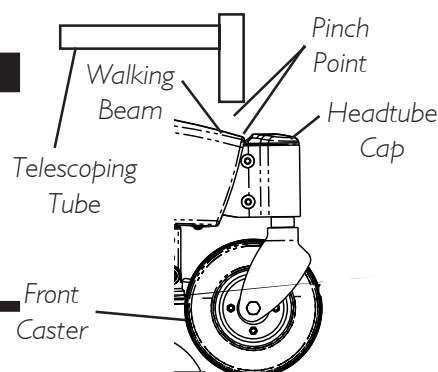
Position wheelchair as close as possible to the desired object. Position the casters so that they are extended away from the drive wheels to create the longest possible wheelbase. Reach back only as far as your arm will extend without changing your sitting position.



PINCH POINTS**WARNING**

Pinch point exists between head tube cap and walking beam.

Pinch point exists between walking beam/head tube cap and telescoping tube when TDX is at the lowest seat to floor height.

**STAIRWAYS****WARNING**

DO NOT attempt to move an occupied power wheelchair between floors using a stairway. Use an elevator to move an occupied power wheelchair between floors. If moving a power wheelchair between floors by means of a stairway, the occupant **MUST** be removed and transported independently of the power wheelchair.

Extreme caution is advised when it is necessary to move an **UNOCCUPIED** power wheelchair up or down the stairs. Invacare recommends using two (2) assistants and making thorough preparations. Make sure to use **ONLY** secure, non-detachable parts for hand-hold supports.

DO NOT attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

Follow this procedure for moving the wheelchair between floors when an elevator is **NOT** available:

WARNING

The weight of the wheelchair without the user and without batteries is between 150 and 211 lbs. Use proper lifting techniques (lift with your legs) to avoid injury.

1. Remove the occupant from the wheelchair.
2. Remove battery batteries from wheelchair. Refer to INSTALLING/REMOVING BATTERIES in SECTION 7 of this manual.
3. Bend your knees and keep your back straight.
4. Using non-removable (non-detachable) parts of the wheelchair, lift the wheelchair off of the ground and transfer the wheelchair up or down the stairs.
5. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been carried away from the stairway.

WARNING

DO NOT use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

TRANSFERRING TO AND FROM OTHER SEATS**WARNING**

ALWAYS turn the wheelchair power **OFF** and engage the motor locks/clutches to prevent the wheels from moving **BEFORE** attempting to transfer in or out of the wheelchair. Also make sure every precaution is taken to reduce the gap distance. Align all casters toward the object you are transferring onto.

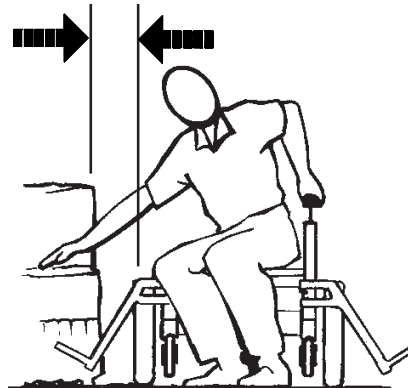
CAUTION

When transferring, position yourself as far back as possible in the seat. This will prevent broken screws, damaged upholstery and the possibility of the wheelchair tipping forward.

NOTE: Adequate mobility and upper body strength is required to perform this activity independently. Use of an assistant is strongly recommended.

1. Position the wheelchair as close as possible along side the seat to which you are transferring, with the casters aligned parallel with the object.
2. Engage motor locks. Refer to DISENGAGING/ENGAGING MOTOR LOCK LEVERS in SECTION 8 of this manual. Shift body weight into seat with transfer.
3. During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

**MINIMIZE
GAP
DISTANCE**



WARNING

CAUTION: IT IS VERY IMPORTANT THAT YOU READ THIS INFORMATION REGARDING THE POSSIBLE EFFECTS OF ELECTROMAGNETIC INTERFERENCE ON YOUR POWERED WHEELCHAIR.

Electromagnetic Interference (EMI) From Radio Wave sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two way radios, and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. This powered wheelchair model as shipped and MK5 electronics has a 20 volts per meter immunity level.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

- 1) Hand-held Portable transceivers (transmitters-receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie," security, fire and police transceivers, cellular telephones, and other personal communication devices. ****NOTE:** Some cellular telephones and similar devices transmit signals while they are ON, even when not being used
- 2) Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle; and
- 3) Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

NOTE: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered wheelchair.

WARNING

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered wheelchair.

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorized scooters.

CAUTION:

Following the warnings listed below should reduce the chance of unintended brake release or powered wheelchair movement which could result in serious injury.

- 1) Do not operate hand-held transceivers (transmitters receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered wheelchair is turned ON;
- 2) Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- 3) If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe;
- 4) Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (Note: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair); and
- 5) Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a source of EMI nearby.

Important Information

- 1) 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994) (the higher the level, the greater the protection);
- 2) While this product as shipped with MK5 electronics has been tested and is immune to signal levels up to 20 V/m, the maximum immunity level of the product is unknown.

Modification of any kind to the electronics of this wheelchair as manufactured by Invacare may adversely affect the RFI immunity levels.

This Section Includes the Following:

Safety Inspection Checklist
Troubleshooting - Mechanical/Electrical

Checking Battery Charge Level
Using Hydrometer To Check Battery Cells

SAFETY INSPECTION CHECKLIST

NOTE: Every six (6) months, or as necessary, take your wheelchair to a qualified dealer for a thorough inspection and servicing. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair.

Initial adjustments should be made to suit personal body structure/user capability and preference. Thereafter follow these maintenance procedures:

Item	Initially	Inspect/ Adjust Weekly	Inspect/ Adjust Monthly	Inspect/ Adjust Periodically
------	-----------	------------------------------	-------------------------------	------------------------------------

GENERAL

- Wheelchair rolls straight
(no excessive drag or pull to one side). ☒ ☐ ☐ ☒

ARMS

- Secure but easy to release;
adjustment levers engage properly. ☒ ☐ ☐ ☒
- Adjustable height arms operate
and lock securely. ☒ ☐ ☐ ☒

ARMRESTS

- Inspect for rips in upholstery. ☒ ☐ ☐ ☒
- Arm rest pad sits flush against arm tube. ☒ ☐ ☐ ☒

SEAT AND BACK UPHOLSTERY

- Inspect for rips or sagging. ☒ ☐ ☐ ☒

CLOTHING GUARDS

- Ensure all fasteners are secure. ☒ ☐ ☐ ☒

CASTERS

- Inspect wheel/fork and stem assembly for
proper tension by spinning caster; caster
should come to a gradual stop. ☒ ☒ ☐ ☐
- Inspect wheel/fork and stem assembly for
damaged, loose or missing hardware. ☒ ☒ ☐ ☐
- Loosen/tighten locknut if wheel wobbles
noticeably or binds to a stop. ☒ ☒ ☐ ☐

CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.

Item	Initially	Inspect/ Adjust Weekly	Inspect/ Adjust Monthly	Inspect/ Adjust Periodically
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CASTER/WHEEL/FORK HEAD TUBE

- Ensure that all fasteners are secure. ☒ ☐ ☒ ☒

DRIVE WHEELS

- Axle nut and wheel mounting nuts are secure. ☒ ☐ ☒ ☒
- No excessive side movement or binding when lifted and spun when disengaged (free-wheeling). ☒ ☐ ☐ ☒

TIRES

- Inspect for flat spots and wear. ☒ ☒ ☐ ☐
- No excessive side movement or binding when lifted and spun when disengaged (free-wheeling). ☒ ☒ ☐ ☐

WHEEL LOCKS

- Wheel Locks do not interfere with tires when rolling. ☒ ☒ ☐ ☐
- Wheel Locks are easy to engage. ☒ ☒ ☐ ☐
- Pivot points free of wear or looseness ☒ ☒ ☐ ☐

CLEANING

- Clean upholstery and armrests. ☐ ☐ ☒ ☒
- Clean dirt and lint from axles ☐ ☐ ☒ ☒
- Clean dirt and lint from bearings ☐ ☐ ☒ ☒

POWER COMPONENTS

- Motor brushes & motor gearbox coupling (4 pole) (Replace every 18 months) ☐ ☐ ☐ ☒
- Inspect Stabilizing Springs ☐ ☐ ☒ ☐
- Inspect mechanical anti-dive for function ☐ ☐ ☒ ☐

STABILITY LOCK

- Inspect and clean the gears or replace if worn. ☐ ☐ ☐ ☒

TROUBLESHOOTING - MECHANICAL

Chair Veers Left/Right	Sluggish Turn/ Performance	Casters Flutter	Squeaks and Rattles	Solutions
X	X	X		If pneumatic, check tires for correct and equal pressure.
X	X	X	X	Check for loose stem nuts/bolts or axle bolts.
X		X		Check that casters contact ground at the same time.

TROUBLESHOOTING - MECHANICAL (CONTINUED)

Looseness in Chair	Chair 3 Wheels	Solutions
X	X	If pneumatic, check tires for correct and equal pressure.
		Check for loose stem nuts/bolts.

TROUBLESHOOTING - ELECTRICAL

SYMPTOM	PROBABLE CAUSE	SOLUTIONS
Batteries draw excessive current when charging.	Battery failure. Electrical malfunction.	Check batteries for shorted cell. Replace if necessary (SECTION 7). Contact Dealer/Invacare for Service.
Battery indicator flashes the charge level is low—immediately after recharge.	Battery failure. Malfunctioning battery charger. Electrical malfunction.	Check batteries for shorted cell. Replace if necessary (SECTION 7). Contact Dealer/Invacare for Service. Poor connections between charger / wheelchair. Contact Dealer/Invacare.
Battery indicator flashes the charge level is low—too soon after being recharged.	Batteries not charged. Weak batteries.	Have charger checked. Replace batteries if necessary. Contact Dealer/Invacare for Service.
Motor “chatters” or runs irregular.	Electrical malfunction.	Contact Dealer/Invacare for Service.
Only one (1) drive wheel turns.	Electrical malfunction. One motor lock is disengaged.	Contact Dealer/Invacare for Service. Engage motor lock (SECTION 9).
Joystick erratic or does not respond as desired.	Damaged motor coupling. Electrical malfunction. Controller Programed improperly.	Contact Dealer/Invacare for Service. Contact Dealer/Invacare for Service. Reprogram controller (Refer to MCC-MK5 controller manual supplied with wheelchair).
Wheelchair does not respond to commands.	Poor battery terminal connection.	Clean terminals (SECTION 7).
Power indicator OFF—even after recharging.	Electrical malfunction.	Contact Dealer/Invacare for Service.
Chair slows or stops while driving AND one (1) of the following occurs: DPJ Joystick - orange LED flashes MPJ Joystick - “HOT” is displayed	Current rollback. Chair has been driving under a heavy load for an extended period of time.	Adjust driving parameters to match driving environment. Leave the joystick powered ON and allow time for the electronics to cool down. (Light Duty Use)

NOTE: For additional troubleshooting information and explanation of error codes, refer to the individual ELECTRONICS MANUAL supplied with each wheelchair.

CHECKING BATTERY CHARGE LEVEL

The following “Do’s” and “Don’ts” are provided for your convenience and safety.

DON'T	DO
Don't perform any installation or maintenance without first reading this manual.	Read and understand this manual and any service information that accompanies a battery and charger before operating the wheelchair.
Don't perform installation or maintenance of batteries in an area that could be damaged by battery spills.	Move the wheelchair to a work area before checking the fluid level, adding distilled water, cleaning terminals, or opening battery box.
Don't make it a habit to discharge batteries to the lowest level.	Recharge as frequently as possible to maintain a high charge level and extend battery life.
Don't use randomly chosen batteries or chargers.	Follow recommendations in this manual when selecting a battery or charger.
Don't put new batteries into service before charging.	Fully charge a new battery before using.
Don't tip or tilt batteries.	Use a carrying strap to remove, move or install a battery.
Don't mismatch your battery and chargers.	Use ONLY a GEL charger for a GEL or sealed battery and a regular charger for regular batteries.

This Section Includes the Following:***Wheelchair Operation MPJ Joystick - Switches and Indicators******Wheelchair Operation DPJ Joystick - Switches and Indicators******Using the Joystick to Drive the Chair***

There are two standard joysticks which make up the MK5 system. The two joystick types are the DPJ and MPJ . The joysticks differ in user controls, switches, number of programmable drives and performance adjustment menus. **The MPJ joystick maybe used with either the MK5 TT_EX controller or the MK5 EX controller.**

WHEELCHAIR OPERATION MPJ JOYSTICK - SWITCHES AND INDICATORS (FIGURE I)

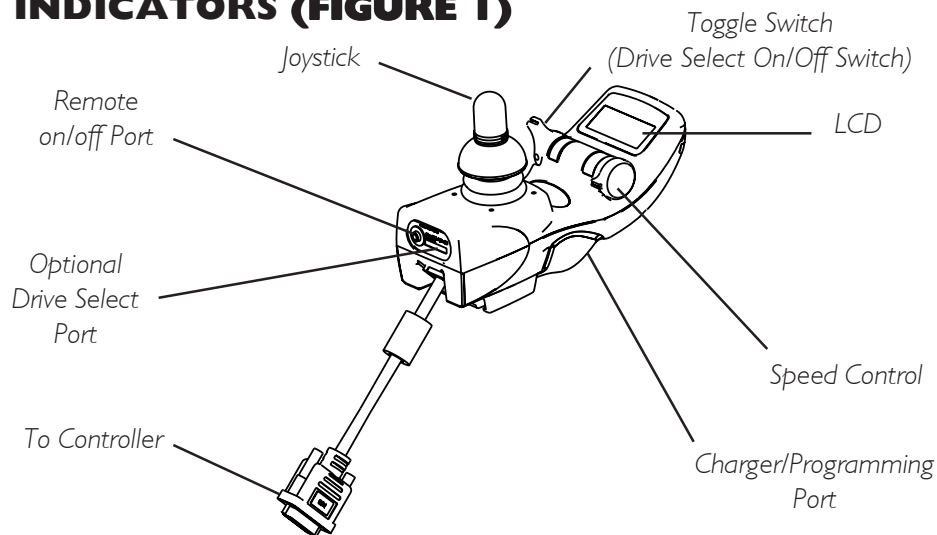


FIGURE I - MPJ JOYSTICK

DRIVE SELECT and ON/OFF SWITCH - A three (3) position toggle switch is located on the side of the joystick housing. The DRIVE SELECT position is momentary. This switch allows the operator to select the type of operation or performance which best suits a particular control need or situation. The DRIVE 1 program uses performance values which are independent of those used for the DRIVE 2 or 3 or 4 program. As an example, an operator may have a control need for spasticity in the morning and a very different need in the afternoon. DRIVE 1 can be programmed for higher speeds and quicker response while DRIVE 2 can be programmed for slower speeds and less responsiveness or vice versa. The other two drive programs could be indoor and outdoor versions of DRIVE 1 and DRIVE 2.

- To select DRIVE 1 mode, move the toggle Up and release. DRIVE 1 will appear on LCD.
- To select DRIVE 2 mode, move the toggle UP and release again. DRIVE 2 will appear on LCD.
- To select DRIVE 3 mode, move the toggle UP and release again. DRIVE 3 will appear on LCD.
- To select DRIVE 4 mode, move the toggle UP and release again. DRIVE 4 will appear on LCD.
- Move the toggle UP and release one more time to select DRIVE I.

SPEED CONTROL - Switch is located on the side of the joystick housing. Rotating the switch forward increases the speed of the chair to the programmed max speed (FIGURE 1).

JOYSTICK - Control Knob, located on the top of the control, provides proportional drive control of speed and direction.

LCD DISPLAY - Located in front of the joystick, provides information on the status of the chair through a 2 line by 12 character length back lighted display. The LCD display is readable in both bright sunlight and complete darkness (FIGURE 2)

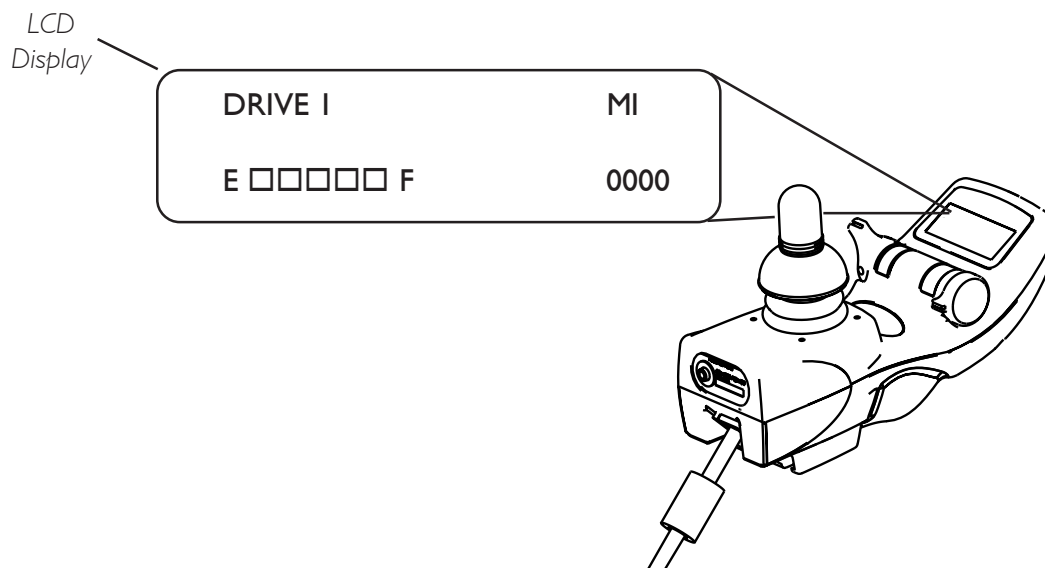


FIGURE 2 - MPJ JOYSTICK -INFORMATION DISPLAY

During normal operation the active drive is displayed on the left half of the first line. The left half of the second line sees as the Battery Discharge Indicator (BDI). It provides information on the remaining charge in the batteries. At full charge solid blocks fill in all five segments between E (Empty) and F (Full). As the battery becomes discharged, the furthest right segments will progressively disappear a half bar at a time until no segments appear between E and F. At this level the word RECHARGE will appear on the second line to indicate that the user should charge the batteries as soon as possible.

The right half of the display is the Information Center. The Information Center displays current data on the chair. FIGURE 5 shows the factory default odometer display. The top line shows the unit of measured MI (miles). The second line is the value, 0000 (total miles driven)

The Information Center can display:

Speedometer:	Current Chair Speed - MPH/KMH
Trip Odometer:	Distance traveled since the chair was last powered ON MI/KM
Odometer:	Total Distance Traveled (Factory Default) -MI/KM
Trip Amp-	
Hour meter	Battery Capacity consumed since the chair was last powered ON - AH
Battery Volts	Current Battery Voltage - VOLT
Battery Current	Battery current being used - AMP
Load Test Results	Current battery condition based on a load test - BATT

If a fault is detected, the cause of the fault will be scrolled across the second line of the display.

Emergency Stop Switch (Reset) - The emergency stop switch is used to stop the chair and to select the operating mode for the chair. The switch input is located on the control module next to the joystick input connector. An emergency stop switch is needed whenever any of the following operating modes are programmed.

Environmental Controls (E.C.U.)

including recliner controls

3 Speed Mode in Momentary

Latched Modes

Pneumatic Control

Stand-by Mode

RIM Control

Remote Drive Selection Mode

Information Center Display Selection (does not require Reset activation at power up)

If any of the above modes are selected, the control will require activation of the switch immediately after the power switch is turned on in order to enter the drive mode. The second line of the LCD will display -PRESS RESET.

Emergency Stop (Reset) Connector - The connector accepts a 1/8-inch diameter Phono plug. The Emergency Stop switch must be an open contact for normal driving and a closed contact to activate the Emergency Stop function.

PIN	DESIGNATION
TIP	RESET (EMERGENCY STOP)
RING	COMMON (B-)

REMOTE ON/OFF - The remote on/off switch input allows the power switch to be operated by an ability switch (normally open momentary switch with mono plug). To use the remote on/off feature, the Drive Select/On/Off switch must be in the ON position. Each activation of the ability switch will alternately turn the joystick ON or OFF.

WHEELCHAIR OPERATION DPJ JOYSTICK - SWITCHES AND INDICATORS (FIGURE 4)

DRIVE 1/DRIVE 2/OFF SWITCH - Three (3) position toggle is located at the back of the joystick housing. This switch allows the operator to select the type of operation or performance which best suits a particular control need or situation. The DRIVE 1 program uses performance values which are independent of those used for the DRIVE 2 program. As an example, an operator may have a control need for spasticity in the morning and a very different need in the afternoon. DRIVE 1 can be programmed for higher speeds and quicker response while DRIVE 2 can be programmed for slower speeds and less responsiveness or vice versa.

- To select DRIVE 1 mode, move the toggle UP.
- To select DRIVE 2 mode, move the toggle to the MIDDLE position.

SPEED CONTROL - Rotary knob is located at the back of the joystick housing. Turning the knob clockwise increases the maximum speed of the chair.

JOYSTICK - Control Knob, located on the top of the control, provides proportional drive control of speed and direction.

MODE(ON/OFF) SWITCH - Push button switch located at the front of the joystick. When an optional actuator control [Single Actuator control, (SAC), Two Actuator Control (TAC), Tilt and Recline Control Module (TRCM)] is present pushing the switch will change the controller mode to control the chairs actuators through the joystick. The mode switch LED indicator will be ON. Push the switch again to return to normal joystick driving. The mode switch LED indicator will be off.

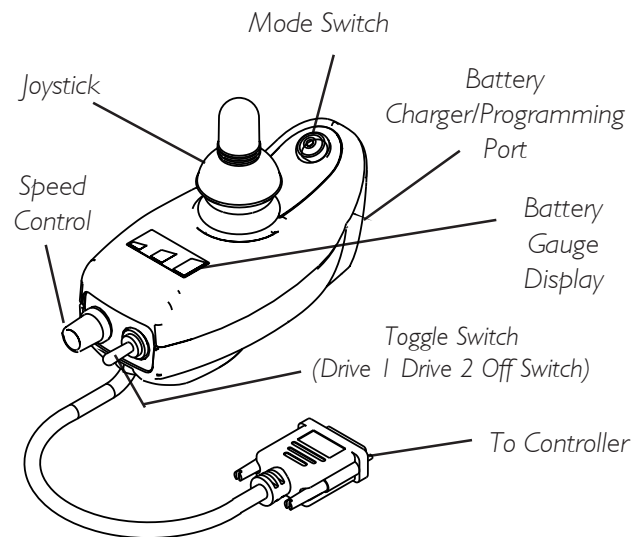


FIGURE 3 - DPJ JOYSTICK

BATTERY GAUGE DISPLAY (BGD) - Located at the rear of the joystick housing, it provides information on the remaining charge in the batteries. At full charge all six (6) segments of the bar graph are lighted; as the battery becomes discharged the farthest right segment will go out until only the red bar is lighted; at this level the last red bar will start to flash on and off to indicate that the user should charge the batteries as soon as possible.

The BGD also serves as a system diagnostic device when a fault is detected by the control module. A specific number of flashes of the last two red bars (up to eight (8) flashes) will start to flash on and off to indicate the type of fault detected separated by a pause. A chart of the diagnostic indications is given in the DIAGNOSTIC CODE Section of the electronics manual, part number 1114808.

WHEELCHAIR OPERATION SPJ-80 JOYSTICK - SWITCHES AND INDICATORS (FIGURE 4)

ON/OFF SWITCH - Two (2) position toggle is located at the back of the joystick housing.

SPEED CONTROL - Rotary knob is located on the back of the joystick housing. Turning the knob clockwise increases the maximum speed of the chair.

JOYSTICK - Proportional drive control located at the front of the joystick housing provides smooth control of speed and direction.

BATTERY GAUGE DISPLAY (BGD) - Located at the rear of the joystick housing, it provides information on the remaining charge in the batteries. At full charge all six (6) segments of the bar graph are lit. The lower the battery charge the fewer number of segments light up. Once the battery level reaches the point where only one segment is lit, the last red bar will start to flash on and off to indicate that the user should charge the batteries as soon as possible.

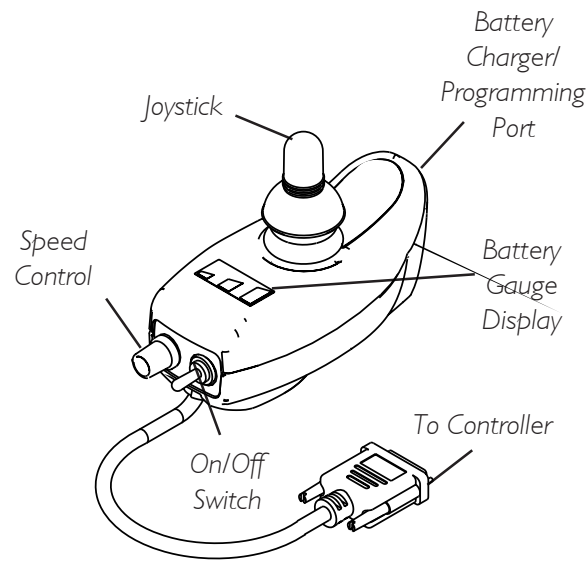


FIGURE 4 - SPJ-80 JOYSTICK

The BGD also serves as a system diagnostic device when a fault is detected by the control module. A specific number of flashes of the last two red bars (up to eight (8) flashes) will start to flash on and off to indicate the type of fault detected separated by a pause. A chart of the diagnostic indications is given in the **DIAGNOSTIC CODE** of the electronics manual, p/n 1122140.

USING THE JOYSTICK TO DRIVE THE CHAIR (FIGURE 5)

The joystick is located on the top of the joystick housing and provides smooth control of speed and direction. It is equipped with 360 degrees of mobility for ease of operation. The joystick is spring-loaded, and automatically returns to the upright (neutral) position when released. Pushing the joystick in a given direction causes the chair to move in that direction.

The joystick has proportional drive control, meaning that the further it is pushed from the upright (neutral) position, the faster the wheelchair moves. Your top speed, however, is limited by the setting of the speed-control knob and the programmed settings.

To slow the wheelchair to a stop, simply release the joystick. The wheelchair has automatic speed and direction compensation to minimize corrections.

When first learning to drive, select a **SLOW** speed and try to drive the wheelchair **AS SLOWLY** as possible by pushing the joystick slightly forward. This exercise will help you learn to utilize the full potential of the proportional control and allow you to start and stop smoothly.

To operate the wheelchair, perform the following:

1. Adjust speed control knob/switch to the appropriate setting.
2. Position the ON/OFF switch into the ON position.
3. Maneuver the joystick in the following manner:
 - A. To move **FORWARD** - Push forward on the joystick.
 - B. To move in **REVERSE**- Pull back on the joystick.
 - C. To turn **RIGHT**- Move the joystick **RIGHT**.
 - D. To turn **LEFT**- Move the joystick **LEFT**.
 - E. To **STOP** - Release the joystick and the wheelchair will quickly slow down and then stop.

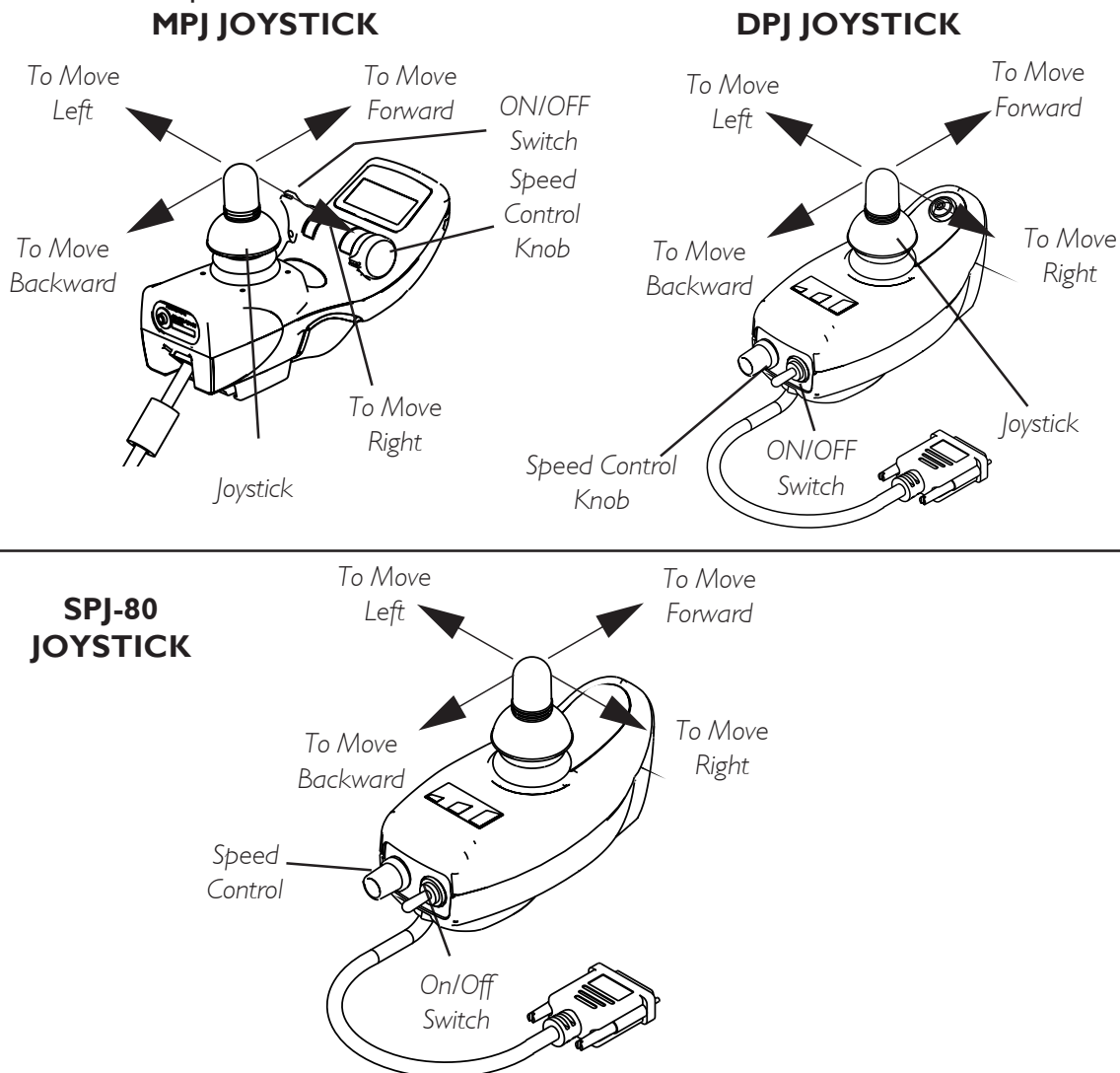


FIGURE 5 - WHEELCHAIR OPERATION - USING THE JOYSTICK TO DRIVE THE CHAIR

This Section Includes the Following:***Installing/Removing Footrests******Footrest Height Adjustment******Adjusting/Replacing Telescoping Front Rigging Support******Installing Adjustable Angle Flip-up Footplate Hinge******Installing/Adjusting Adjustable Angle Flip-up Footplates******Composite/Articulating Footplate Heel Loop Replacement******Installing/Removing Elevating Legrests******Raising/Lowering Elevating Legrests and/or Adjusting Calf Pads******Center Mount Footrests*****WARNING**

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

For the following procedures, make sure the ON/OFF switch on the joystick is in the OFF position.

DO NOT stand on the flip-up footboard. When getting in or out of the wheelchair, make sure that the flip-up footboard is in the upward position.

PINCH POINT EXISTS BETWEEN CENTER MOUNT FOOTREST AND CASTERS - There is limited clearance between center mount footrest and casters. The user's feet **MUST** remain on the center mount footrest while operating the chair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

INSTALLING/REMOVING FOOTRESTS**70°/PW93 (FIGURE 1)**

1. Turn the footrest to the side (open footplate is perpendicular to wheelchair).
2. Install the hinge plates on the footrest onto the hinge pins on the wheelchair frame.
3. Push the footrest towards the inside of the wheelchair until it locks into place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1-3 for other footrest assembly.
5. To remove the footrest, push the footrest release lever inward, rotate footrest outward.
6. Refer to FOOTREST HEIGHT ADJUSTMENT in this section of the manual.

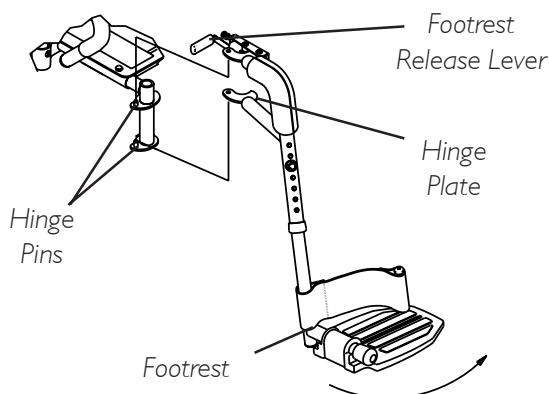


FIGURE 1 - INSTALLING/REMOVING FOOTRESTS - 70°/PW93

70° TAPER (FIGURE 2)

1. Turn the footrest to the side (open footplate is perpendicular to wheelchair itself).
2. Insert footrest mounting pin into mounting tube.
3. Push the footrest towards the inside of the wheelchair until it locks into place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

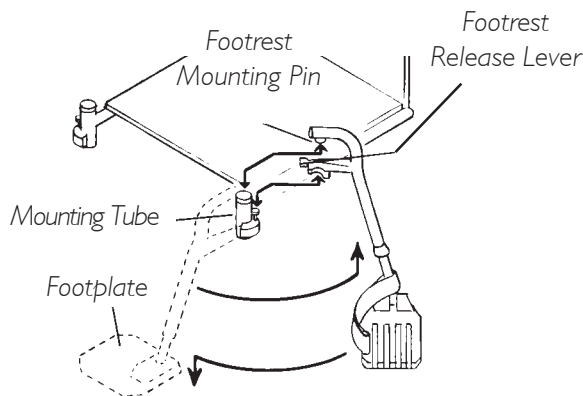


FIGURE 2 - INSTALLING/REMOVING FOOTRESTS - 70°, TAPER

4. Repeat STEPS 1- 3 for the other footrest assembly.
5. To remove the footrest, push the footrest release lever inward, rotate footrest outward.
6. Refer to FOOTREST HEIGHT ADJUSTMENT in this section of the manual.

FOOTREST HEIGHT ADJUSTMENT**70°, PW93 (FIGURE 3)****WARNING**

Minimum ground clearance for footrest is 3-inches - otherwise personal injury and damage may result.

1. Remove any accessory from the footrest(s).
2. Remove the footrest from the wheelchair. Refer to INSTALLING/REMOVING FOOTRESTS in this section of the manual.

NOTE: Lay the footrest on a flat surface to simplify this section.

3. Remove the mounting screw, washers and locknut that secure the lower footrest to the footrest support.
4. Reposition the lower footrest to the desired height.
5. Reinstall the mounting, washers and locknut that secure the lower footrest to the footrest support and tighten securely.
6. Repeat STEPS 1-5 for the opposite side of the wheelchair footrest, if necessary.

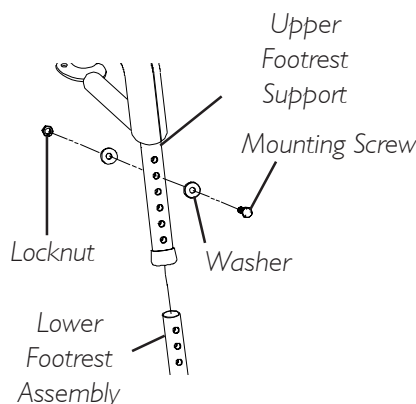


FIGURE 3 - FOOTREST HEIGHT ADJUSTMENT - 70°, PW93

7. Reinstall the footrest(s) onto the wheelchair. Refer to INSTALLING/REMOVING FOOTRESTS in this section of the manual.
8. Reinstall any accessory onto the footrest(s).

70° TAPER (FIGURE 4)**WARNING**

Minimum ground clearance for footrest is 3-inches - otherwise personal injury and damage may result.

1. Remove any accessory from the footrest(s).
2. Remove the footrest from the wheelchair. Refer to **INSTALLING/REMOVING FOOTRESTS** in this section of the manual.

NOTE: Lay the assembly on a flat surface to simplify this section.

NOTE: Note the position of the spacers before disassembly.

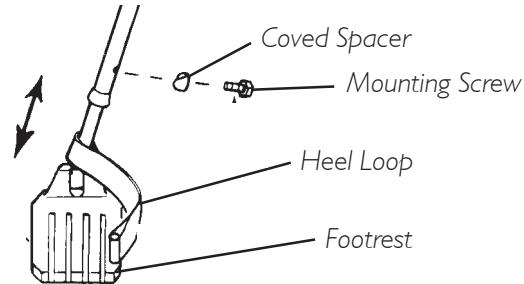


FIGURE 4 - FOOTREST HEIGHT ADJUSTMENT - 70° TAPER

3. Remove the mounting screw and coved spacer that secures the lower footrest assembly.
4. Position the footrest assembly to the desired height.
5. Secure lower footrest assembly with existing mounting screw and coved spacer. Securely tighten.

NOTE: Make sure spacers are positioned properly when reassembling so as not to damage the frame mounting tubes.

6. Reinstall the footrest(s) onto the wheelchair. Refer to **INSTALLING/REMOVING FOOTRESTS** in this section of the manual.
7. Reinstall any accessory onto the footrest(s).

PHAL4A (FIGURE 5)

1. Loosen, but do not remove the lug bolt and locknut that secure the lower footrest to the footrest support.
2. Reposition the lower footrest to the desired height.
3. Securely tighten the lug bolt and locknut that secure the lower footrest to the footrest support.
4. Repeat STEPS 1-3 for the opposite side of the wheelchair footrest, if necessary.

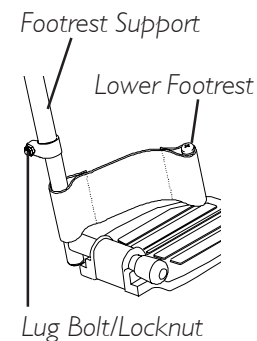


FIGURE 5 - FOOTREST HEIGHT ADJUSTMENT - PHAL4A

ADJUSTING/REPLACING TELESCOPING FRONT RIGGING SUPPORT (FIGURE 6)

WARNING

If the telescoping tubes need to be extended greater than 2-inches then the seat must be repositioned rearward to ensure stability - otherwise personal injury and/or damage to the wheelchair and surrounding property may result.

1. Remove the two (2) mounting screws, spacers and locknuts that secure the telescoping front rigging support to the seat frame.
2. Perform one (1) of the following:
 - A. Slide existing telescoping front rigging support to one (1) of three (3) depth positions.
 - B. Remove existing telescoping front rigging.
3. Secure telescoping front rigging at desired depth with existing two (2) mounting screws, spacers, and locknuts. Securely tighten.

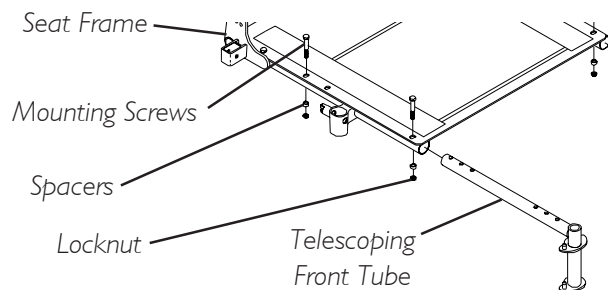


FIGURE 6 - ADJUSTING/REPLACING TELESCOPING FRONT RIGGING SUPPORT

NOTE: The two (2) telescoping front rigging supports can be positioned at different depths depending on the need of the user.

INSTALLING ADJUSTABLE ANGLE FLIP-UP FOOTPLATE HINGE (FIGURE 7)

1. Position adjustable angle flip-up footplate (**footplate**) hinge on the footrest support tube at the desired height.
2. Position mounting screw, washers, spacer, and locknut on the footrest support as shown in FIGURE 7.
3. Flip the footplate hinge to the UP position.

NOTE: The footplate hinge will fall to the DOWN position.

4. Tighten the mounting screw, washer, and locknut that secure the footplate hinge to the footrest support until the footplate hinge remains in the UP position.
5. Check the up and down motion of the footplate hinge to make sure the user of the wheelchair can operate the footplates easily.

NOTE: If footplate's motion is too tight, loosen the mounting screw and locknut approximately 1/4-turn counter clockwise.

NOTE: If the footplate's motion is too loose, tighten mounting screw and locknut approximately 1/4-turn clockwise.

6. Adjust footplate. Refer to INSTALLING/ADJUSTING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES in this section of the manual.

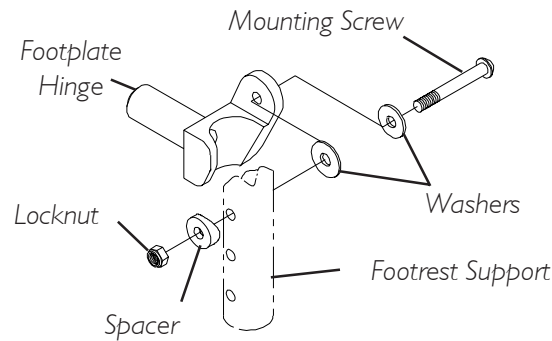


FIGURE 7 - INSTALLING ADJUSTABLE ANGLE FLIP-UP FOOTPLATE HINGE

INSTALLING/ADJUSTING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES

INSTALLING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES (FIGURE 8)

1. Slide the half clamp over the footplate hinge.
2. Loosely tighten the two (2) flat screws that secure the footplate to the half clamp.
3. Adjust the footplates to the necessary angle and depth for the user. Refer to ADJUSTING ADJUSTABLE FLIP-UP FOOTPLATES in this section of the manual.

ADJUSTABLE ANGLE FLIP-UP FOOTPLATE DEPTH ADJUSTMENT (FIGURE 8)

1. Remove the two (2) flat screws, washers and locknuts that secure articulating footplate to the half clamp.

NOTE: Observe the angle of the articulating footplate for reinstallation.

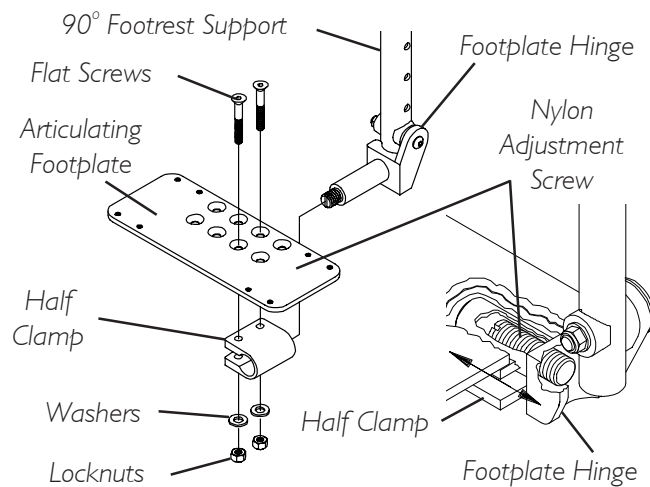
2. Move articulating footplate to one (1) of four (4) mounting positions.

NOTE: If desired depth is still not obtained, rotate the half clamp on the footplate hinge 180°.

3. Retighten the two (2) flat screws, washers and locknuts.

NOTE: The settings for positioning the articulating footplates on the half-clamps may vary for each footplate.

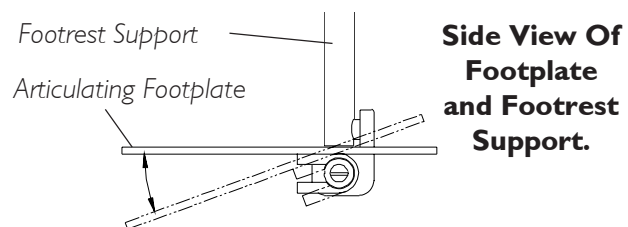
4. Refer to ADJUSTABLE ANGLE FLIP-UP FOOTPLATE ANGLE ADJUSTMENT or ADJUSTABLE ANGLE FLIP-UP FOOTPLATE PERPENDICULAR AND/OR INVERSION/EVERSION ADJUSTMENT in this section of the manual.



**FIGURE 8 - INSTALLING/ADJUSTING
ADJUSTABLE ANGLE FLIP-UP FOOTPLATES**

ADJUSTABLE ANGLE FLIP-UP FOOTPLATE ANGLE ADJUSTMENT (FIGURES 8 AND 9)

1. Loosen, but do not remove the two (2) flat screws, washer and locknuts that secure the footplate to the footplate hinge.
2. Position the articulating footplate to the necessary angle to accommodate the user.
3. Retighten the two (2) flat screws, washers and locknuts.

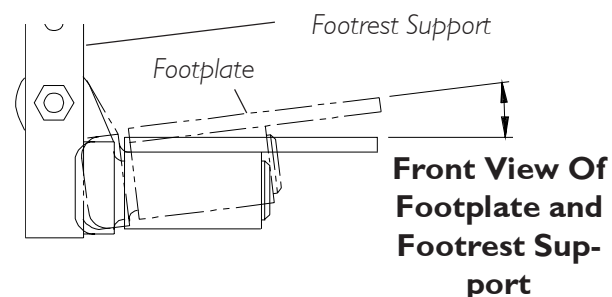


**FIGURE 9 - ADJUSTABLE ANGLE FLIP-UP
FOOTPLATE ANGLE ADJUSTMENT**

ADJUSTABLE ANGLE FLIP-UP FOOTPLATE PERPENDICULAR AND/ OR INVERSION/EVERSION ADJUSTMENT (FIGURES 8 AND 10)

NOTE: It is not necessary to remove the footplate to perform this adjustment.

1. Insert a flathead screwdriver through the half clamp on the articulating footplate.
2. Slowly turn nylon adjustment screw in or out until articulating footplate is perpendicular to the footrest assembly or the desired inversion or eversion is obtained.



**FIGURE 10 - ADJUSTABLE ANGLE FLIP-UP
FOOTPLATE PERPENDICULAR AND/
OR INVERSION/EVERSION
ADJUSTMENT**

COMPOSITE/ARTICULATING FOOTPLATE HEEL LOOP REPLACEMENT (FIGURE 11)

DISASSEMBLY

Composite.

1. Remove the mounting screw and coved washer that secures the lower half of the footrest to the swingaway footrest assembly.
2. Remove the lower footrest assembly.
3. Remove the mounting screw and locknut that secure the heel loop to the footrest.
4. Slide heel strap over cane of footrest assembly.

Articulating.

1. Remove the two (2) mounting screws that secure the heel loop to the articulating footplate.

REASSEMBLY

1. Replace heel strap/loop.
2. Reverse preceding steps to reassemble.

NOTE: When securing heel loop to the footrest assembly, tighten mounting screw until the spacer is secure.

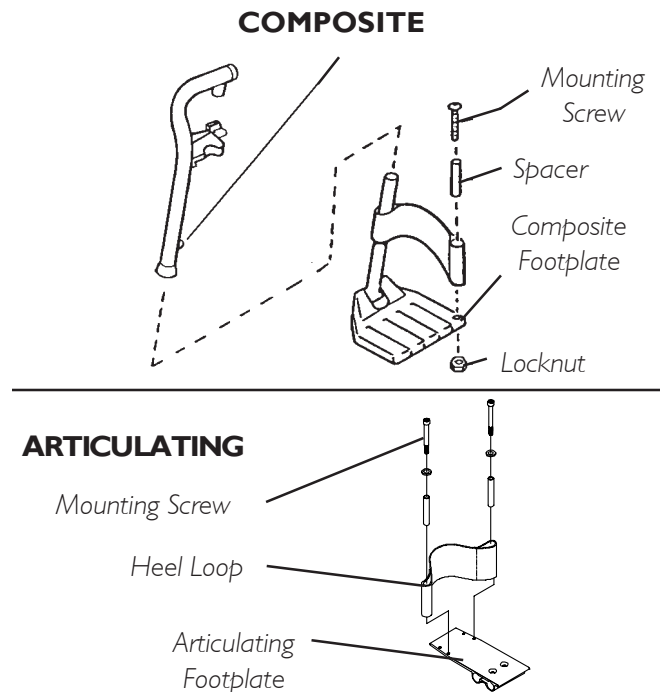


FIGURE 11 - COMPOSITE/ARTICULATING FOOTPLATE HEEL LOOP REPLACEMENT

INSTALLING/REMOVING ELEVATING LEGRESTS (FIGURE 12)

INSTALLING

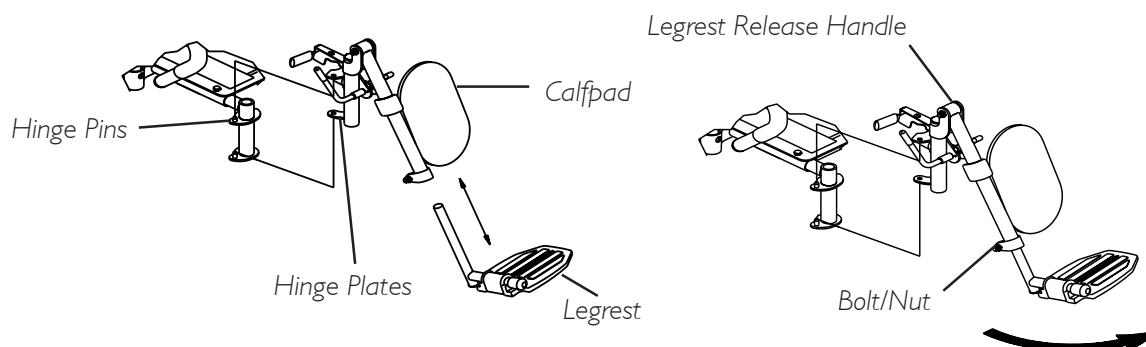
1. Turn legrest to side (open footplate is perpendicular to wheelchair) and position mounting holes in the legrest hinge plates with hinge pins on the wheelchair frame.
2. Install the legrest hinge plates onto the hinge pins on the wheelchair frame.
3. Rotate legrest toward the inside of the wheelchair until it locks in place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1-3 for the opposite legrest.
5. After seated in wheelchair, adjust footplate to correct height by loosening nut and sliding the lower footrest assembly up or down until desired height is achieved.

REMOVING

1. Push the legrest release handle toward the inside of the wheelchair (facing the front of the wheelchair) and swing the legrest to the outside of the wheelchair.
2. Lift up on the legrest and remove from the wheelchair.
3. Repeat STEPS 1- 2 for opposite side of wheelchair.

**FIGURE 12 - INSTALLING/REMOVING ELEVATING LEGRESTS**
**RAISING/LOWERING ELEVATING LEGRESTS AND/OR
ADJUSTING CALFPADS (FIGURE 13)**
WARNING

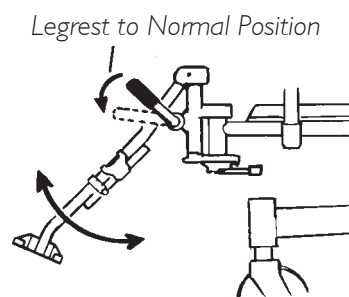
Minimum ground clearance for footrest is 3-inches - otherwise personal injury and damage may result.

RAISING/LOWERING ELEVATING LEGRESTS

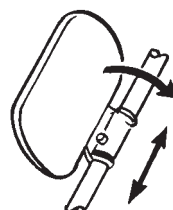
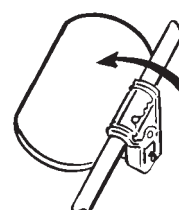
1. Perform one (1) of the following:

RAISING - Pull back on the release lever until the leg is at the desired height.

LOWERING - Support leg with one (1) hand and push release lever downward with other hand.

**ADJUSTING CALFPADS**

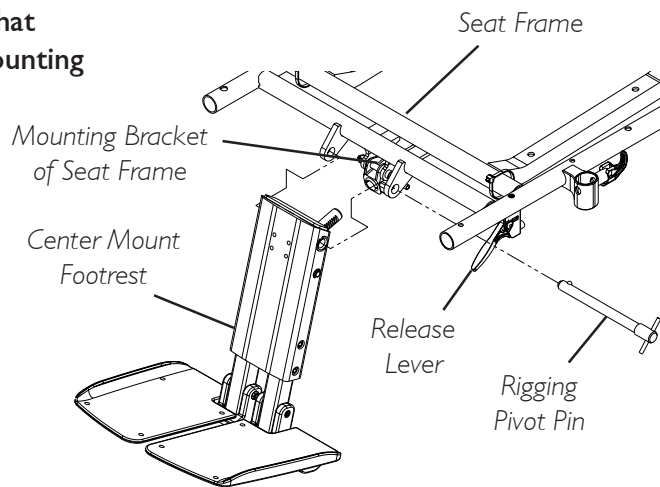
1. Turn the calfpad towards the outside of the wheelchair.
2. Slide the calfpad up or down until the desired position is obtained.
3. Turn the calfpad towards the inside of the wheelchair.

*Adjust
Calfpad**Secure
Calfpad*
**FIGURE 13 - RAISING/LOWERING
ELEVATING LEGRESTS AND/OR
ADJUSTING CALFPADS**

REMOVING/INSTALLING THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST (FIGURE 14)

REMOVING

1. Remove the rigging pivot pin that secures the footrest to the mounting bracket of the seat frame.
2. Hold the footrest with one hand and engage the release lever with the other while simultaneously pulling the center mount rigging out of the mounting bracket of the seat frame.



INSTALLING

1. Engage the release lever with the one hand and hold the center mount footrest with the other, and insert the center mount footrest into the mounting bracket of the seat frame.
2. Reinstall the rigging pivot pin to secure the center mount footrest to the mounting bracket of the seat frame.

FIGURE 14 - REMOVING/INSTALLING THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST

ADJUSTING HEIGHT OF THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST

FOR ASBA SEATS (FIGURE 15)

WARNING

After adjusting the Center Mount Adjustable Knee Angle Footrest, minimum ground clearance for the footrest in the driving position is 3-inches. If the Center Mount Adjustable Angle Footrest is in the retracted position and the chair is not moving, the footrest **MUST** maintain a minimum of 1 - inch ground clearance - otherwise personal injury and damage may result.

1. Remove the two (2) mounting screws that secure the footrest extension tube to the extension tube housing.
2. Adjust the footrest extension tube to the desired height and align the corresponding holes to the mounting holes on the extension tube housing.
3. Reinstall the two (2) mounting screws to secure the footrest extension tube to the extension tube housing. Securely tighten.
4. Repeat STEPS 1-3 for the other extension tube.

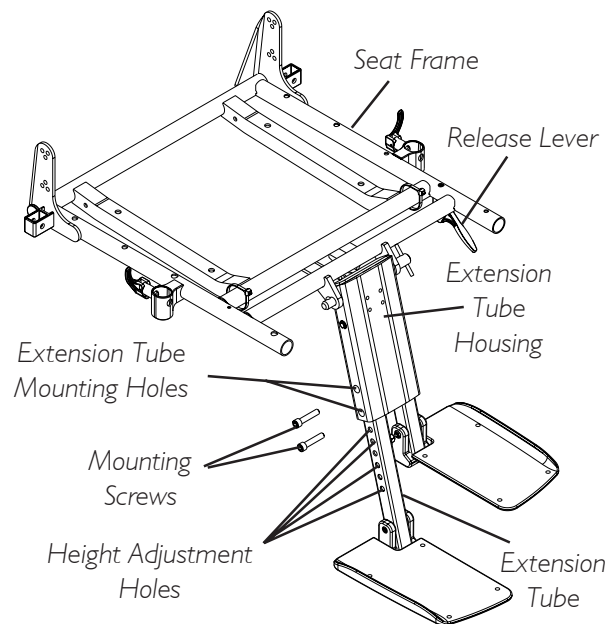


FIGURE 15 - ADJUSTING THE HEIGHT OF THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST - FOR ASBA SEATS

FOR 2GTR SEATING SYSTEMS (FIGURE 16)

1. Remove the two (2) mounting screws that secure the footrest extension tube to the extension tube housing.
- *2. Remove the retaining ring on the angle adjustment pin and slide it out.
3. Adjust the footrest extension tube to the desired height and align the corresponding holes to the mounting holes on the extension tube housing.
- *4. Reinstall the angle adjustment pin and the retaining ring.
5. Reinstall the two (2) mounting screws to secure the footrest extension tube to the extension tube housing. Securely tighten.
6. Repeat STEPS 1-5 for the other extension tube.

**NOTE: STEPS 2 and 4 apply only to the three (3) shortest settings for footrest height.*

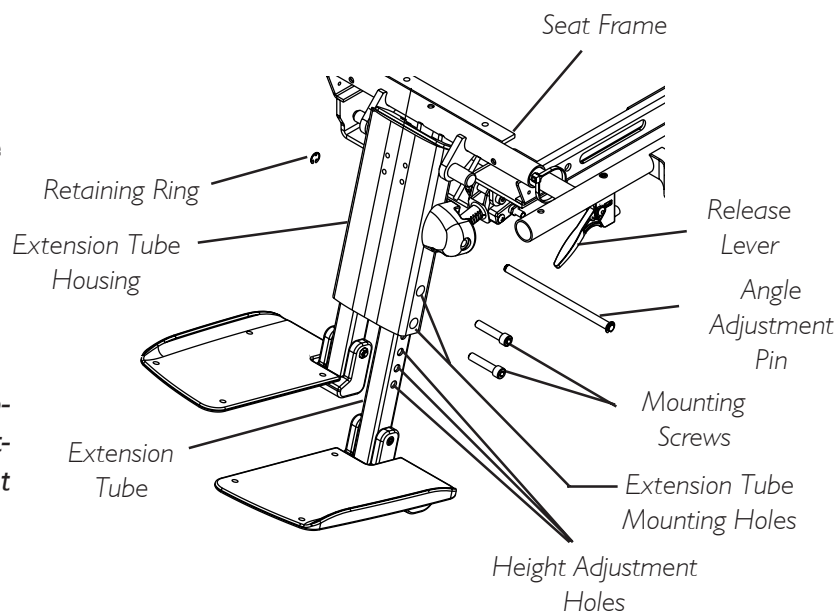


FIGURE 16 - ADJUSTING THE HEIGHT OF THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST - 2GTR SEATING SYSTEMS

ADJUSTING THE ANGLE OF THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST (FIGURE 17)

WARNING

After adjusting the Center Mount Adjustable Knee Angle Footrest, minimum ground clearance for the footrest in the driving position is 3-inches. If the Center Mount Adjustable Angle Footrest is in the retracted position and the chair is not moving, the footrest **MUST** maintain a minimum of 1 - inch ground clearance - otherwise personal injury and damage may result.

1. Engage the release lever with one hand (not shown) and move the center mount footrest to the desired angle with the other hand.

NOTE: Refer to FIGURE 16 for the location of the release lever.

2. Disengage the release lever (not shown) to lock the center mount footrest in the new position.

ADJUSTING THE FOOTPLATE ANGLE (FIGURE 18)

1. Loosen the footplate mounting screw and move the footplate to the desired angle.

NOTE: DO NOT remove the footplate mounting screw.

2. Tighten the footplate mounting screw to secure the footplate in the desired position.
3. Repeat STEPS 1 and 2 for the other footplate.

ADJUSTING THE TENSION OF THE FLIP UP FOOTPLATE (FIGURE 19)

NOTE: The tension can be adjusted to increase or decrease the rotation effort of the flip up footplates.

1. Loosen the mounting screw on the footrest angle hinge to decrease the rotation effort.

NOTE: DO NOT remove the footplate mounting screw.

2. Tighten the footrest angle hinge mounting screw to increase the rotation effort.
3. Repeat STEPS 1 and 2 for the other footplate.

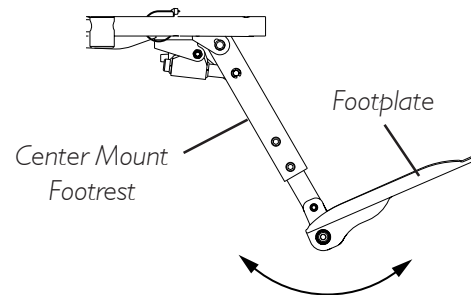


FIGURE 17 - ADJUSTING THE ANGLE OF THE CENTER MOUNT ADJUSTABLE KNEE ANGLE FOOTREST

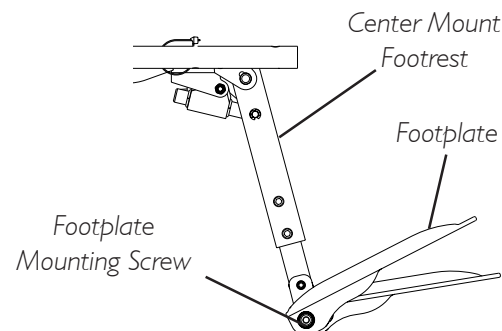


FIGURE 18 - ADJUSTING THE FOOTPLATE ANGLE

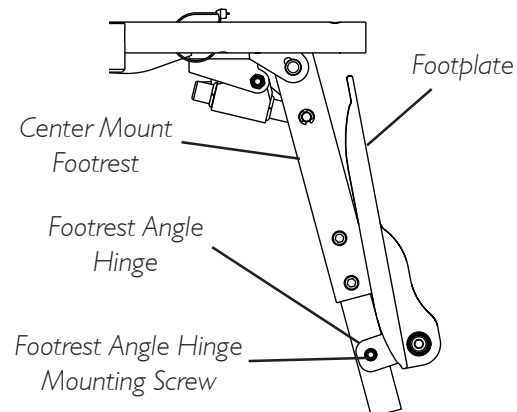


FIGURE 19 - FLIP UP THE FOOTPLATE

This Section Includes the Following:

*Installing/Removing Flip Back Armrests
Adjusting Flip Back Armrests*

WARNING

After **ANY** adjustments, repair or service and **BEFORE** use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

INSTALLING/REMOVING FLIP BACK ARMRESTS (FIGURE 1)

WARNING

Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

NOTE: Flip back armrest release lever must be in the unlocked (UP- HORIZONTAL) position when placing the armrest into the arm sockets.

INSTALLING

1. Visually inspect to ensure flip back armrest release lever is in the unlocked HORIZONTAL position.
2. Slide the flip back armrest into the arm sockets on the seat frame.
3. Install the quick release pin through the rear arm socket and flip back armrest.
4. Lock the flip back armrest by pressing the flip back armrest release lever into the VERTICAL position.
5. Repeat STEPS 1-4 for the opposite flip back armrest.

REMOVING

1. Unlock the flip back armrest by positioning the flip back armrest release lever into the HORIZONTAL position.
2. Remove the quick release pin that secures the flip back armrest to the rear arm socket.
3. Pull up on the flip back armrest and remove the armrest from the arm sockets.
4. Repeat STEPS 1-3 for the opposite flip back armrest, if necessary.

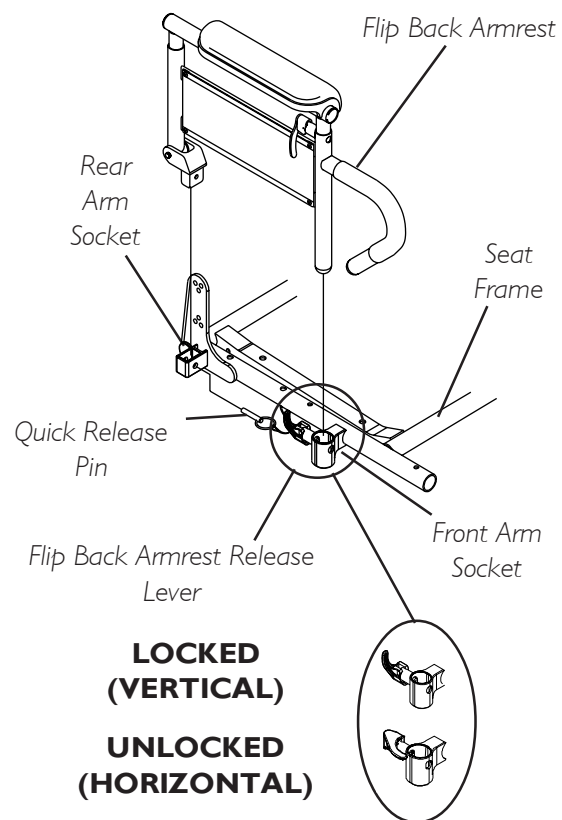


FIGURE 1 - INSTALLING/REMOVING FLIP BACK ARMRESTS

ADJUSTING FLIP BACK ARMRESTS (FIGURE 2)

WARNING

Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

POSITIONING FLIP BACK ARMRESTS FOR USER TRANSFER

1. Unlock the flip back armrest by pulling the armrest release lever into the HORIZONTAL position.

WARNING

Armrest release lever must remain in the horizontal position during transfer, otherwise injury may result.

2. Pull up on the flip back armrest and remove the armrest from the front arm socket.
3. Continue to pull up on the flip back armrest until the armrest is out of the way.
4. Repeat STEPS 1-3 for opposite flip back armrest, if necessary.

POSITIONING FLIP BACK ARMRESTS FOR USE

1. Make sure the flip back armrest release lever is in the HORIZONTAL position.
2. Install the flip back armrest into the front arm socket.
3. Lock flip back armrest by pressing flip back armrest release lever into the VERTICAL position.
4. Lift up on flip back armrest to make sure the armrest is locked in place.
5. Repeat STEPS 1-4 for opposite flip back armrest, if necessary.

ADJUSTING

1. Unlock top of flip back armrest by pulling height adjustment lever into the HORIZONTAL position.
2. Adjust top of the flip back armrest to the desired height.
3. Lock top of flip back armrest by pushing height adjustment lever into the VERTICAL position.

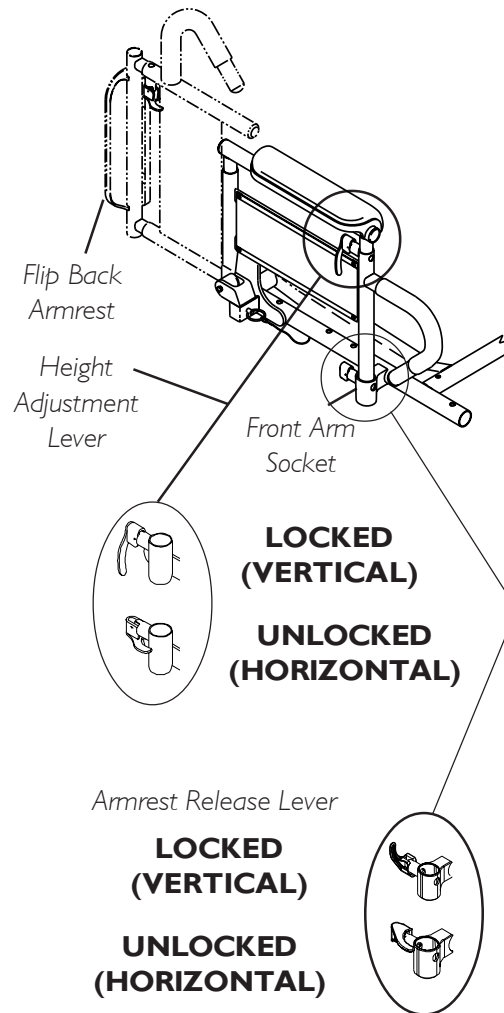


FIGURE 2 - ADJUSTING FLIP BACK ARMRESTS

This Section Includes the Following:

*Replacing Seat Positioning Strap
Adjusting the Seat Position on the Seat Frame*

WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

REPLACING SEAT POSITIONING STRAP (FIGURE 1)

STANDARD/ADJUSTABLE SEAT FRAMES

1. Remove the seat cushion from the seat pan.
2. Move the flip back armrests out of the way. Refer to USING/ADJUSTING FLIP BACK ARMRESTS in Section 5 of this manual.
3. Remove the two (2) mounting screws, quick release pin tabs, spacers, and locknuts that secure the seat pan and seat positioning straps to the seat frame.
4. Remove the two (2) halves of the seat positioning strap from the rear seat frame.

NOTE: Quick release pin tabs are positioned underneath the seat positioning strap.

5. Reposition the two (2) NEW seat positioning strap halves underneath seat rails.
6. Reinstall the two (2) mounting screws, quick release pin tabs, spacers, and locknuts that secure the seat pan and seat positioning straps to the seat frame and torque to 75-inch pounds.
7. Reinstall the seat cushion onto the seat pan.

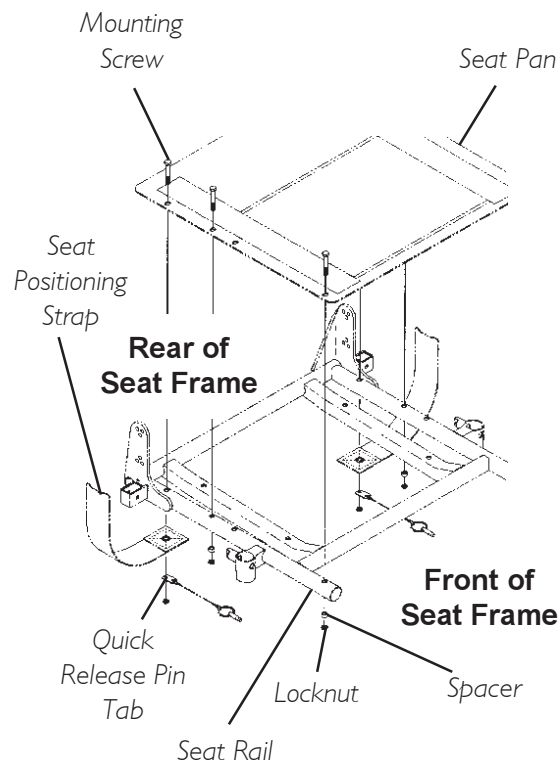


FIGURE 1 - REPLACING SEAT POSITIONING STRAP

ADJUSTING THE ASBA SEAT POSITION ON THE SEAT FRAME (FIGURE 2)

WARNING

The TDX wheelchair is shipped with the seat in the standard position, noted in the chart below. If seat depth adjustment is desired, refer to the Service Manual, p/n 1114819, to reposition the seat. This procedure **MUST** be done by a qualified technician **ONLY**- otherwise personal injury and damage may result.

NOTE: The chart below indicates which mounting position is used for each width and depth of seat frame.

D E P T H	W I D T H								
	16	17	18	19	20	21	22	23	24
	16	Center	Center	Center	Center	Center	Center	Rear	Rear
	17	Center	Center	Center	Center	Center	Center	Rear	Rear
	18	Center	Center	Center	Center	Center	Center	Rear	Rear
	19	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear
	20	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear
	21	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear
	22	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear
	23	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear

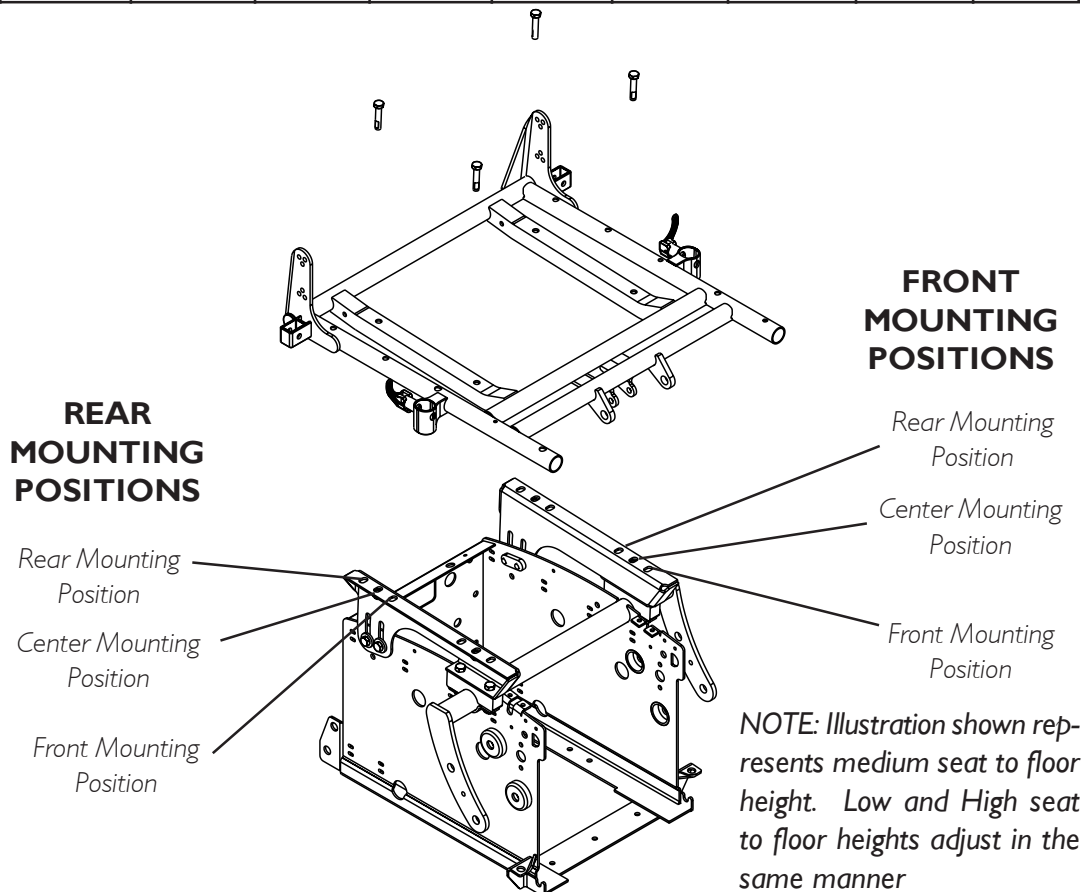


FIGURE 2 - ADJUSTING THE SEAT POSITION ON THE SEAT FRAME

This Section Includes the Following:

Warnings for Handling and Replacing Batteries
Using the Proper Batteries
Installing/Removing Batteries
Replacing Batteries
When to Charge Batteries
Charging Batteries

WARNINGS FOR HANDLING AND REPLACING BATTERIES

WARNING

Make sure power to the wheelchair is **OFF** before performing this procedure.

The use of rubber gloves and chemical goggles or face shield is recommended when working with batteries.

Invacare strongly recommends that battery installation and battery replacement always be done by a qualified technician.

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

22NF batteries weigh 37 pounds each. GP24 batteries weigh 51 pounds each. Use proper lifting techniques (lift with your legs) to avoid injury.

Use MK p/n M24SLDG or p/n M22NFSLDG batteries only. Failure to use the correct battery size and/or voltage may cause damage to your wheelchair and give you unsatisfactory performance.

ALWAYS use a battery lifting strap when lifting a battery. It is the most convenient method and assures that the battery acid will not spill. It also helps to prolong the life of the battery.

DO NOT tip the batteries. Keep the batteries in an upright position.

NEVER allow any of your tools and/or battery cable(s) to contact **BOTH** battery post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

When tightening the clamps, always use a box wrench. Pliers will “round off” the nuts. **NEVER** wiggle the battery terminal(s)/post(s) when tightening. The battery may become damaged.

The **POSITIVE (+) RED** battery cable **MUST** connect to the **POSITIVE (+) battery terminal(s)/post(s)**, otherwise serious damage will occur to the electrical system.

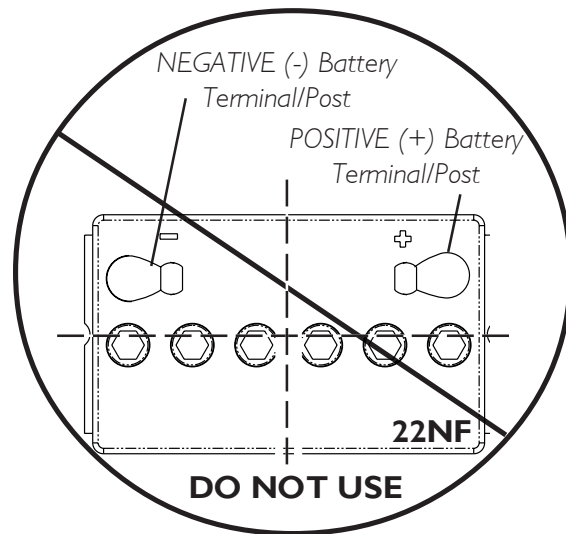
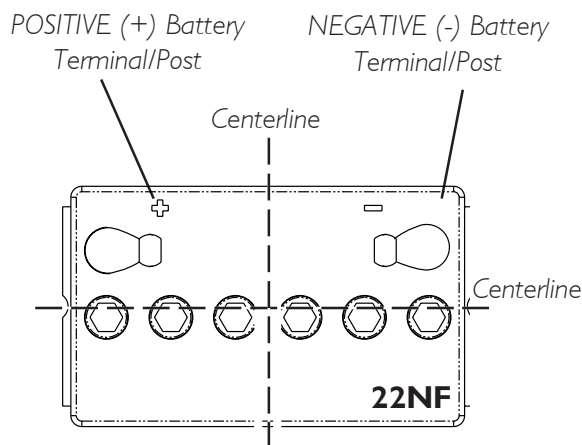
NOTE: If there is battery acid in the bottom of the battery tray or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before reinstalling the NEW or existing battery(ies), clean the baking soda from the battery tray or battery(ies).

USING THE PROPER BATTERIES (FIGURE 1)

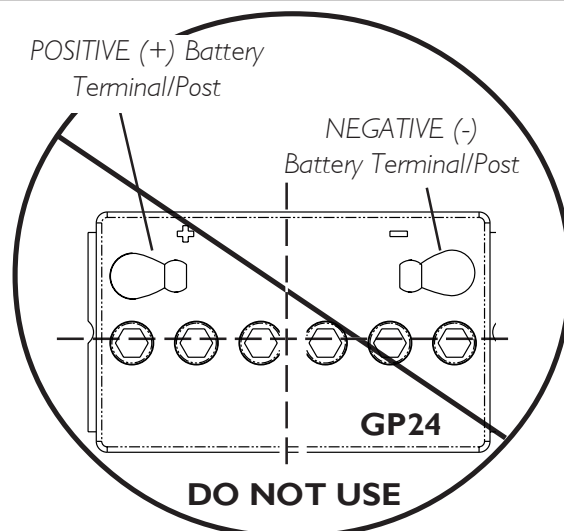
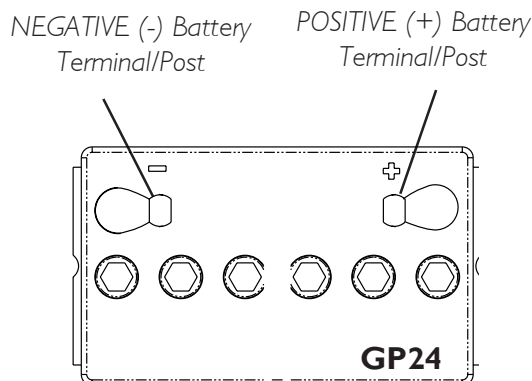
1. Place battery on ground/flat surface.
2. Visually draw a horizontal and vertical centerline through the middle of battery.
3. Position the battery so that the terminals are above the horizontal centerline.
4. Visually inspect the battery to ensure the following:

WARNING**FOR TDX WHEELCHAIRS THAT USE 22NF BATTERIES**

Batteries with terminal configuration (positive on the left and negative on the right) as shown below **MUST** be used. Batteries that have the reverse terminal configuration **MUST NOT** be used - otherwise injury and damage may occur.

PROPER BATTERY TO BE USED**WARNING****FOR TDX WHEELCHAIRS THAT USE GP24 BATTERIES**

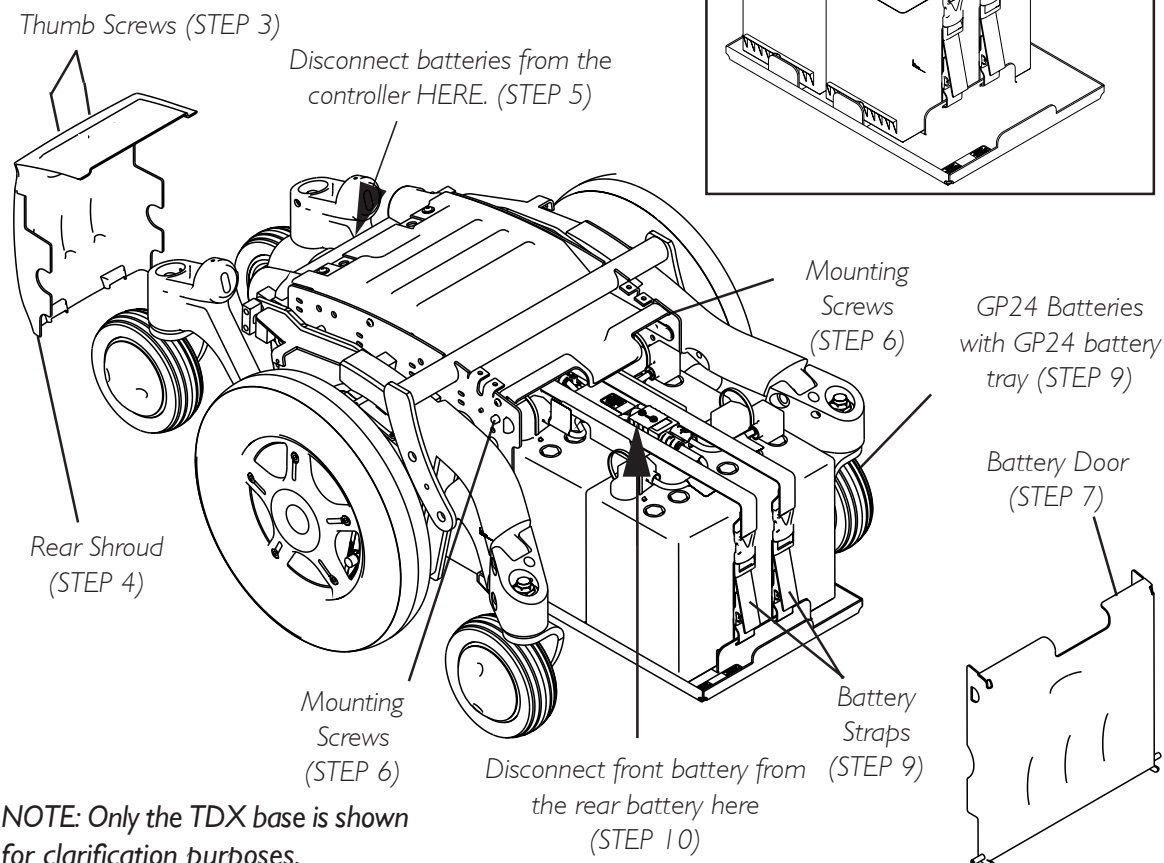
Batteries with terminal configuration (positive on the right and negative on the left) as shown below **MUST** be used. Batteries that have the reverse terminal configuration **MUST NOT** be used - otherwise injury and damage may occur.

**FIGURE 1 - USING THE PROPER BATTERIES**

REMOVING/INSTALLING BATTERIES FROM/INTO WHEELCHAIR

REMOVING (FIGURE 2)

1. Place the wheelchair in a well ventilated area where work can be performed without risking damage to carpeting or floor covering.
2. Verify the joystick ON/OFF switch is in the OFF position.
3. Remove the two thumb screws that secure the rear shroud to the chair.
4. Remove the rear shroud from the chair.
5. Disconnect the controller from the batteries at the rear of the chair.
6. Remove both mounting screws from side of battery door.
7. Remove battery door from front of chair.
8. Slide battery tray with batteries out.
9. If wheelchair is equipped with ventilator tray refer to REMOVING VENTILATOR BATTERY in this section of the manual.
10. Disconnect battery straps.
11. Unplug front battery from rear battery.
12. Remove the front battery.
13. Slide the rear battery forward and remove it from the tray.



NOTE: Only the TDX base is shown for clarification purposes.

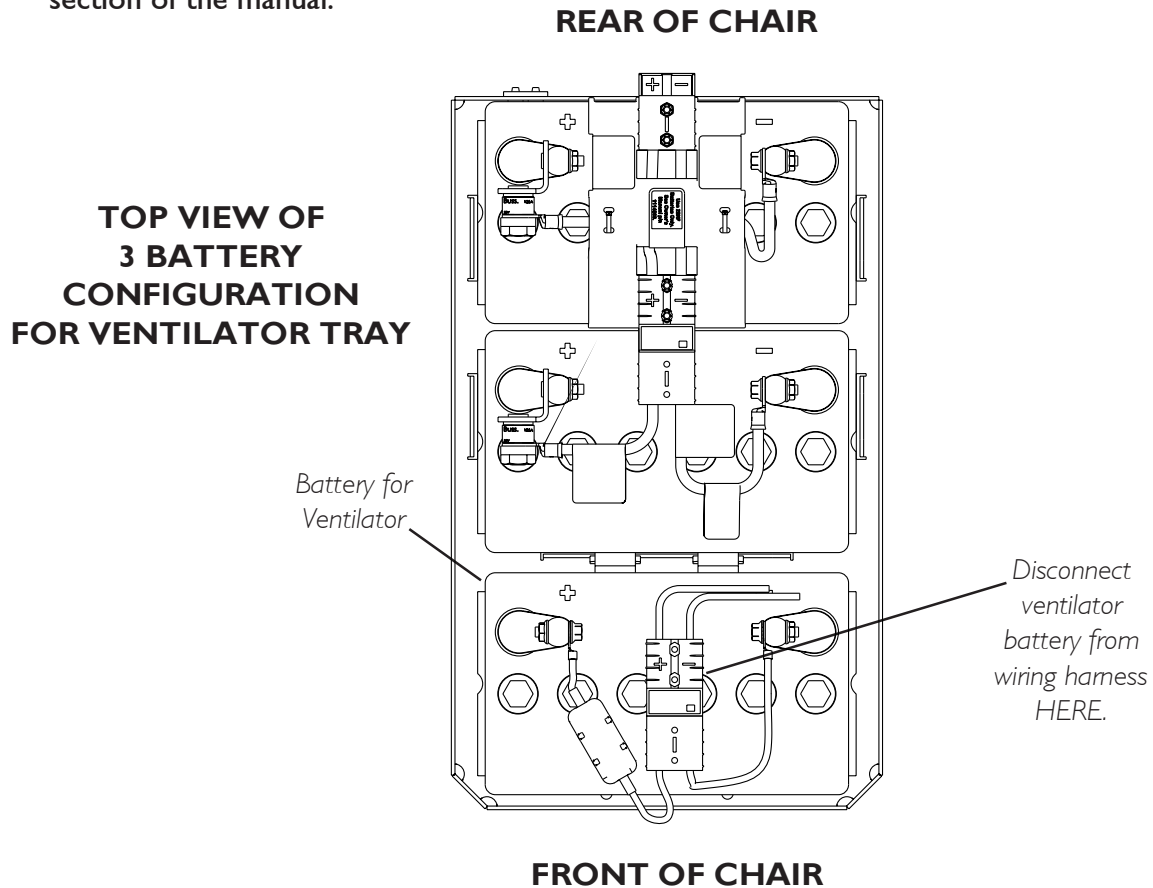
FIGURE 2 - REMOVING BATTERIES FROM WHEELCHAIR

REMOVING VENTILATOR BATTERY (FIGURE 3)

1. Perform STEPS 1- 8 in REMOVING BATTERIES FROM WHEELCHAIR in this section of the manual.
2. Disconnect ventilator battery from wiring harness.
3. Disconnect the strap that secures the ventilator battery to the tray.
4. Remove the ventilator battery.
5. Continue with STEPS 9-13 in REMOVING BATTERIES FROM WHEELCHAIR in this section of the manual.

INSTALLING VENTILATOR BATTERY (FIGURE 3)

1. Perform STEPS 1- 4 in INSTALLING BATTERIES INTO WHEELCHAIR in this section of the manual.
2. Install ventilator battery in the orientation shown in FIGURE 3.
3. Connect ventilator battery to wiring harness.
4. Connect the strap to secure the ventilator battery to the tray.
5. Continue with STEPS 6-10 in INSTALLING BATTERIES INTO WHEELCHAIR in this section of the manual.



**FIGURE 3 - REMOVING BATTERIES FROM WHEELCHAIR
(TDX WITH OPTIONAL VENT TRAY)**

INSTALLING BATTERIES INTO WHEELCHAIR (FIGURES 4 AND 5)

NOTE: Positioning of the batteries is completed with battery tray position in wheelchair and partially pulled out. Refer to FIGURE 2 for full view of chair. Illustrations in FIGURE 4 are shown without the chair for clarification purposes only.

1. Perform the following to install batteries onto the battery tray. (FIGURE 2)
 - A. Position the battery with battery connector bracket in the **rear** of the battery tray in the orientation as shown.

NOTE: Orientation of the battery is critical otherwise batteries will not connect to the controller or each other.

NOTE: Front of battery tray is designated by the battery stop. Rear of the battery tray is the opposite end.

- B. Position the remaining battery in the **front** of the battery tray in the orientation shown so that the wiring harnesses can be connected together.
2. Connect front battery to rear battery.
3. Connect battery straps.
4. Slide the battery tray into the chair.

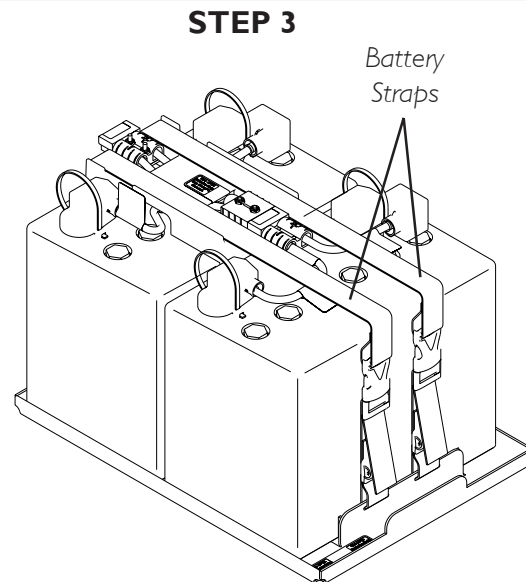
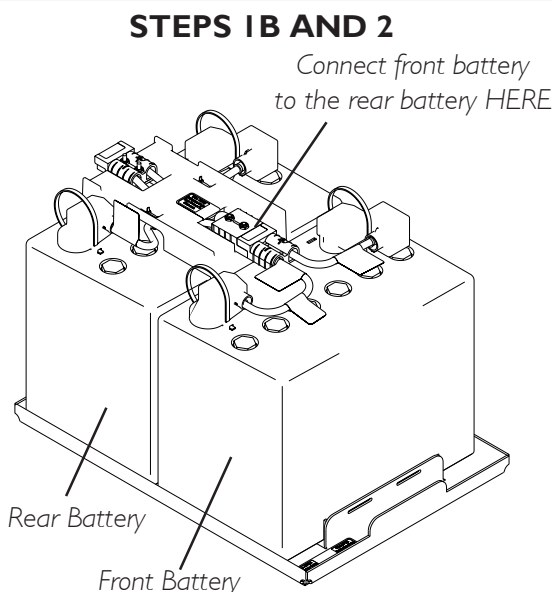
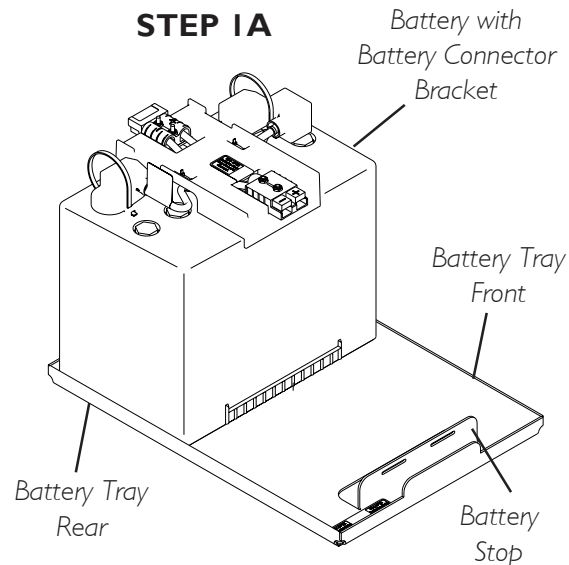


FIGURE 4 - INSTALLING BATTERIES INTO THE WHEELCHAIR

5. If wheelchair is equipped with ventilator tray refer to INSTALLING VENTILATOR BATTERY in this section of the manual.

WARNING

After installing battery door, ensure that the mounting screws on the side of the battery door are fully engaged into the side of the battery box.

6. Reinstall battery door onto front of chair.
7. Install both mounting screws on the side of the battery door.

NOTE: Ensure that the mounting screws on the side of the battery door are fully engaged into the side of the battery box.

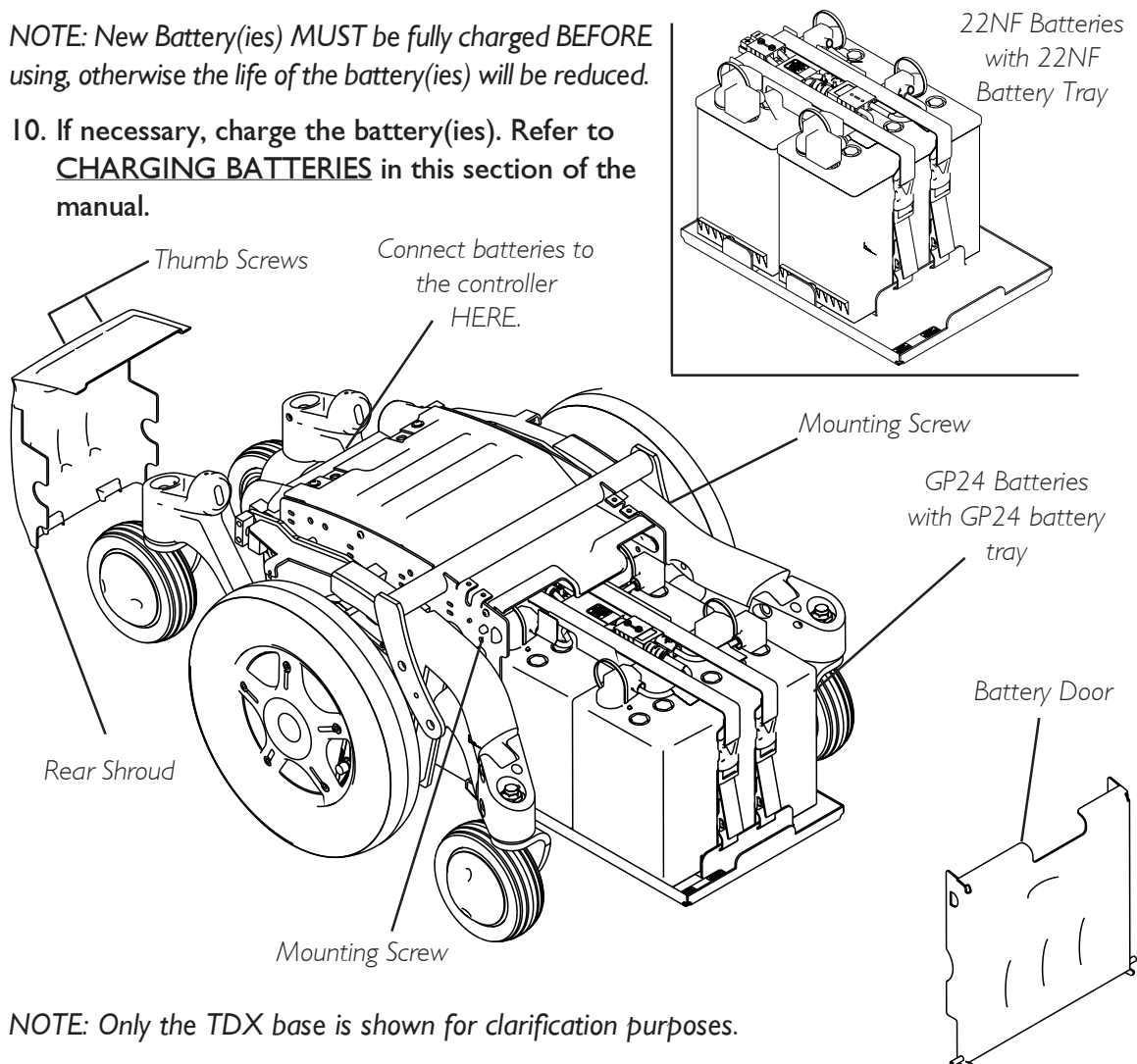
WARNING

When installing batteries, ensure battery connector is securely engaged to the controller connector - otherwise serious personal injury may result.

8. Connect the controller to the batteries at the rear of the chair.
9. Reinstall the rear shroud and secure in place with the existing two (2) thumb screws.

NOTE: New Battery(ies) MUST be fully charged BEFORE using, otherwise the life of the battery(ies) will be reduced.

10. If necessary, charge the battery(ies). Refer to CHARGING BATTERIES in this section of the manual.



NOTE: Only the TDX base is shown for clarification purposes.

FIGURE 5 - INSTALLING BATTERIES INTO THE WHEELCHAIR

REPLACING BATTERIES

GROUP 24 BATTERIES

Rear Battery with Battery Connector Bracket (FIGURE 6)

1. Remove the batteries from the chair. Refer to REMOVING/INSTALLING BATTERIES FROM/INTO WHEELCHAIR in this section of the manual.
2. Cut the tie-wraps that secure the battery terminal covers to the battery terminals. Refer to Detail “A” in FIGURE 6.
3. Perform the following: (Detail “A” in FIGURE 6)
 - A. Slide the RED battery terminal cover back on the RED battery cable to expose the positive battery terminal.
 - B. Slide the BLACK battery terminal cover back on the BLACK battery cable to expose battery terminal.

WARNING

NEVER allow any of your tools and/or battery cable(s) to contact BOTH battery post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

4. Perform the following:
 - A. Remove the locknut that secures the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post of the REAR battery.
 - B. Remove the locknut that secures the NEGATIVE battery cable to the NEGATIVE(-) battery post of the FRONT battery.
5. Discard the EXISTING battery.

NOTE: If there is battery acid in the bottom of the battery tray or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before installing the NEW or existing battery(ies), clean the baking soda from the battery tray or battery(ies).

6. Position battery connector bracket onto the NEW GP24 battery as shown.
7. Perform the following:
 - A. Secure the NEGATIVE battery cable to the NEGATIVE(-) battery post of the with existing mounting screw and locknut.
 - B. Secure the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post with existing mounting screw and locknut.
8. Position each battery terminal cover over top of each battery terminal.
9. Secure battery terminal covers in place with one tie-wrap.
10. Install batteries into wheelchair. Refer to REMOVING/INSTALLING BATTERIES FROM/INTO WHEELCHAIR in this section of the manual.

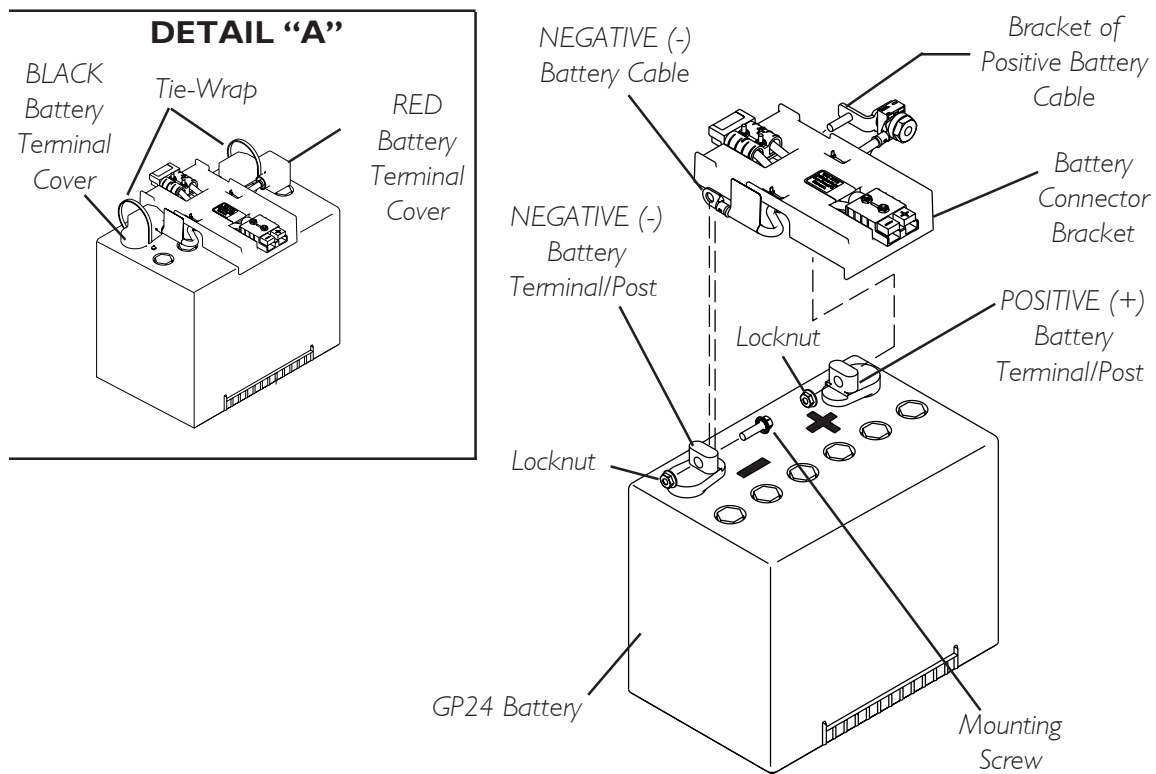


FIGURE 6 - REPLACING GROUP 24 BATTERIES - REAR BATTERY WITH BATTERY CONNECTOR BRACKET

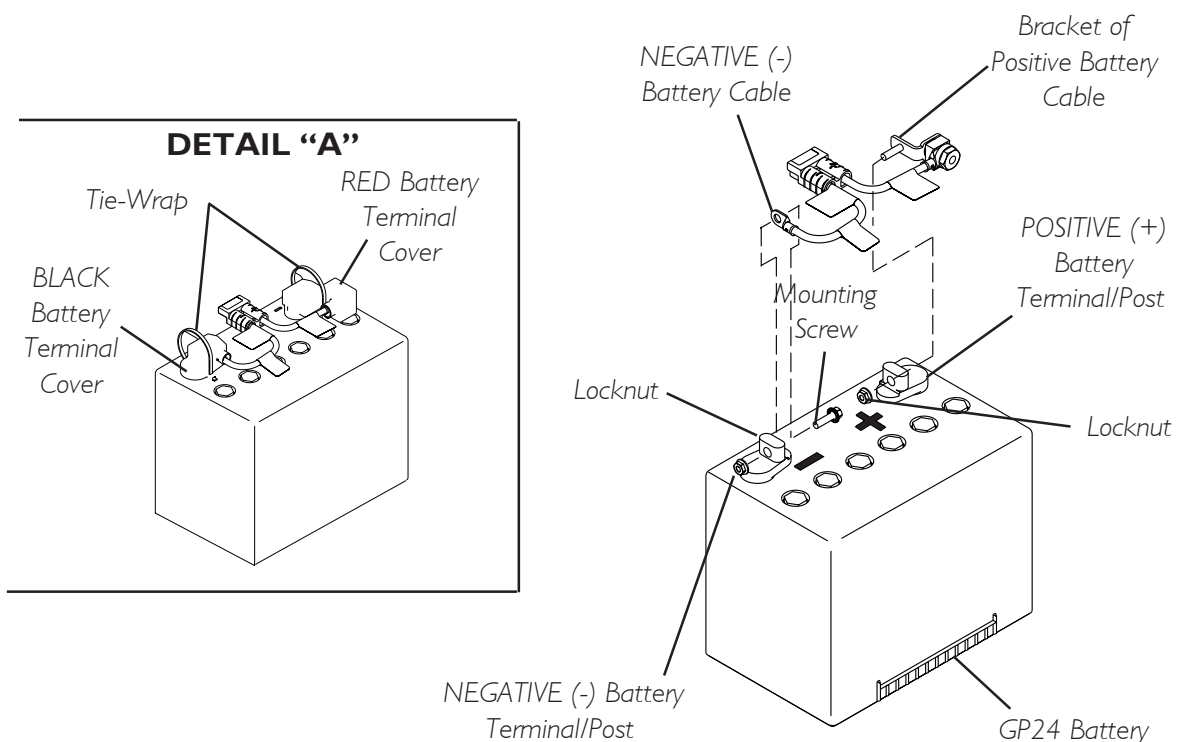


FIGURE 7 - REPLACING GROUP 24 BATTERIES - FRONT BATTERY WITH WIRING HARNESS

Front Battery with Wiring Harness (FIGURE 7)

1. Remove the batteries from the chair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.
2. Cut the tie-wraps that secure the battery terminal covers to the battery terminals. Refer to Detail “A” in FIGURE 7.
3. Perform the following: (Detail “A” in FIGURE 7)
 - A. Slide the RED battery terminal cover back on the RED battery cable to expose the positive battery terminal.
 - B. Slide the BLACK battery terminal cover back on the BLACK battery cable to expose battery terminal.

WARNING

NEVER allow any of your tools and/or battery cable(s) to contact **BOTH** battery post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

4. Perform the following:
 - A. Remove the locknut that secures the POSITIVE battery cable to the POSITIVE (+) battery post.
 - B. Remove the locknut that secures the NEGATIVE battery cable to the NEGATIVE(-) battery post
5. Discard the EXISTING battery.

NOTE: If there is battery acid in the bottom of the battery tray or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before installing the NEW or existing battery(ies), clean the baking soda from the battery tray or battery(ies).

6. Position battery wiring harness onto the NEW GP24 battery as shown.
7. Perform the following:
 - A. Secure the NEGATIVE battery cable to the NEGATIVE(-) battery post of the with existing mounting screw and locknut.
 - B. Secure the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post with existing mounting screw and locknut.
8. Position each battery terminal cover over top of each battery terminal.
9. Secure battery terminal covers in place with one tie-wrap.
10. Install battery into wheelchair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.

22NF BATTERIES**Rear Battery with Connector Bracket (FIGURE 8).**

1. Remove the batteries from the chair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.
2. Cut the tie-wraps that secure the battery terminal covers to the battery terminals. Refer to Detail “A” in FIGURE 8.
3. Perform the following:(Detail “A” in FIGURE 8)
 - A. Slide the RED battery terminal cover back on the RED battery cable to expose battery terminal.
 - B. Slide the BLACK battery terminal cover back on the BLACK battery cable to expose battery terminal.

WARNING

NEVER allow any of your tools and/or battery cable(s) to contact **BOTH** battery post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

4. Perform the following:
 - A. Remove the locknut that secures the NEGATIVE battery cable to the NEGATIVE(-) battery post.
 - B. Remove the locknut that secures the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post.

5. Discard the EXISTING battery or batteries.

NOTE: If there is battery acid in the bottom of the battery tray or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before installing the NEW or existing battery(ies), clean the baking soda from the battery tray or battery(ies).

6. Position connector bracket onto the NEW 22NF battery as shown.
7. Perform the following:
 - A. Secure the NEGATIVE battery cable to the NEGATIVE(-) battery post with existing mounting screw and locknut.
 - B. Secure the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post with existing locknut.
8. Position each battery terminal cover over top of each battery terminal.
9. Secure battery terminal covers in place with one tie-wrap.
10. Install battery into wheelchair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.

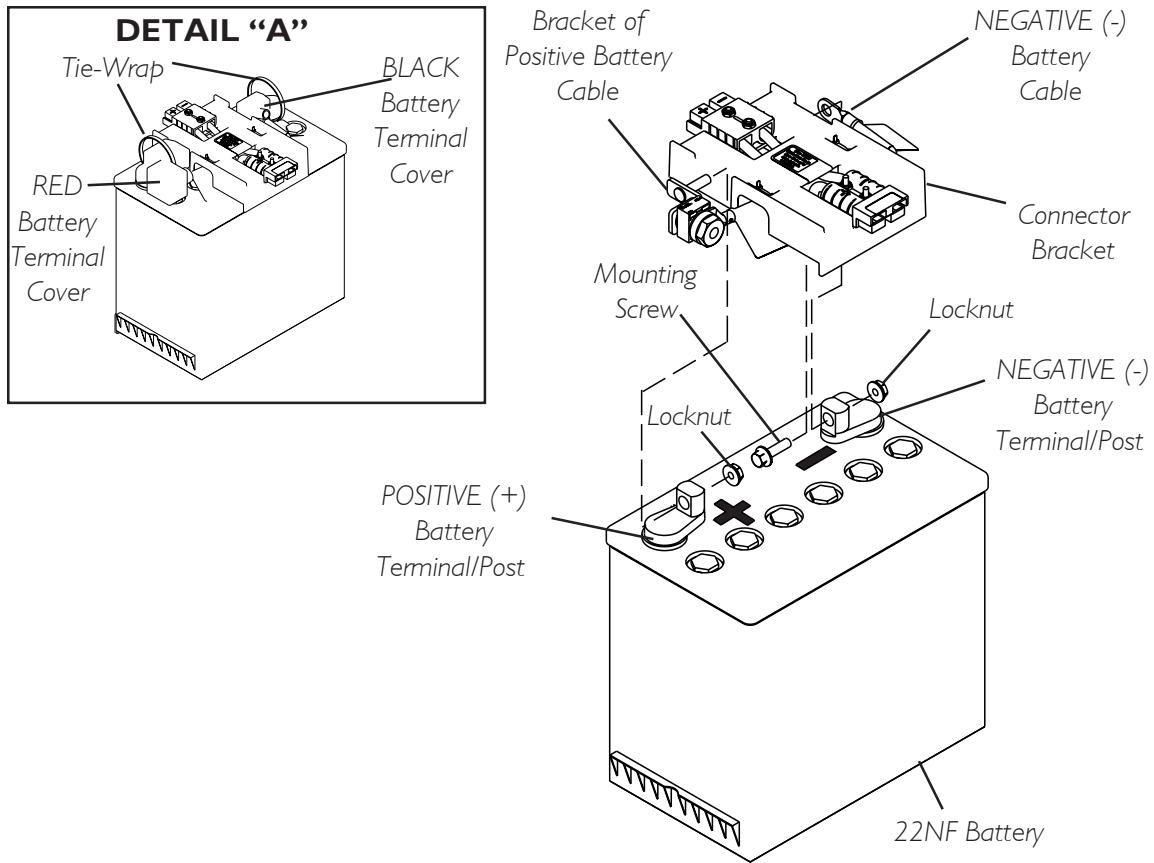


FIGURE 8 - REPLACING 22NF BATTERIES - REAR BATTERY WITH CONNECTOR BRACKET

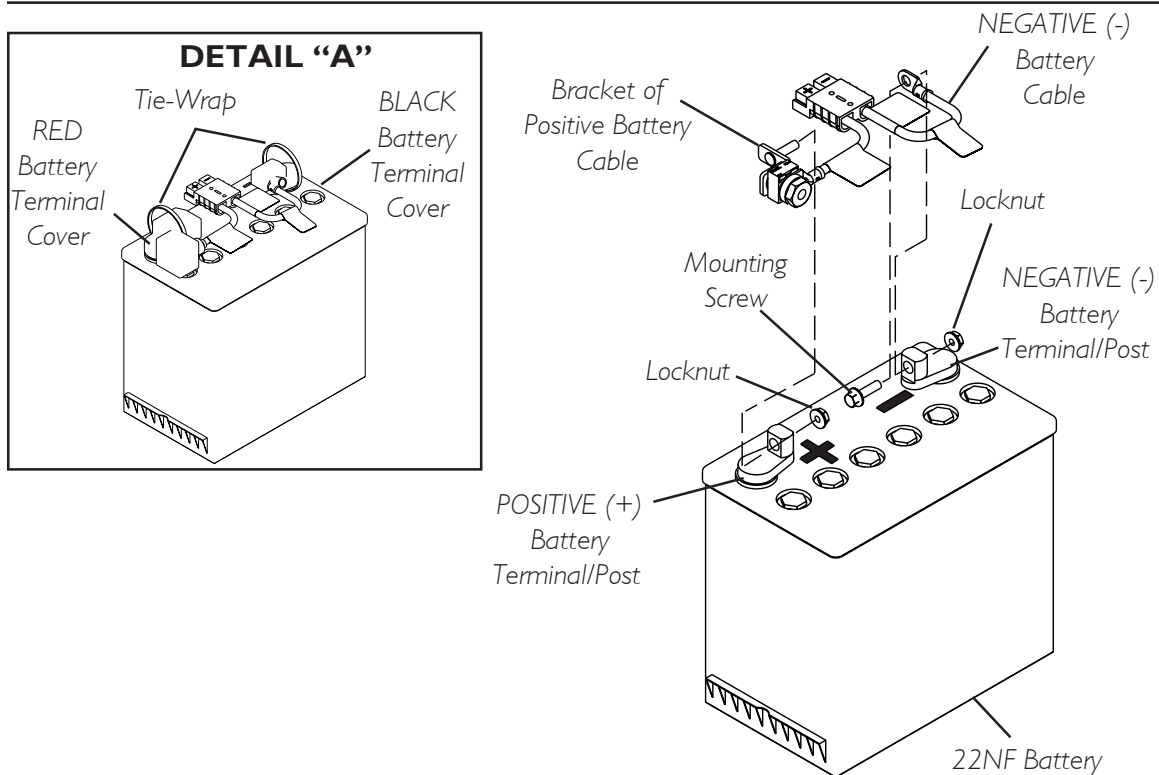


FIGURE 9 - REPLACING 22NF BATTERIES FRONT BATTERY WITH WIRING HARNESS

22NF BATTERIES**Front Battery with Wiring Harness (FIGURE 9).**

1. Remove the batteries from the chair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.
2. Cut the tie-wraps that secure the battery terminal covers to the battery terminals. Refer to Detail “A” in FIGURE 9.
3. Perform the following:(Detail “A” in FIGURE 9)
 - A. Slide the RED battery terminal cover back on the RED battery cable to expose battery terminal.
 - B. Slide the BLACK battery terminal cover back on the BLACK battery cable to expose battery terminal.

WARNING

NEVER allow any of your tools and/or battery cable(s) to contact BOTH battery post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

4. Perform the following:
 - A. Remove the locknut that secures the NEGATIVE battery cable to the NEGATIVE(-) battery post.
 - B. Remove the locknut that secures the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post.

5. Discard the EXISTING battery.

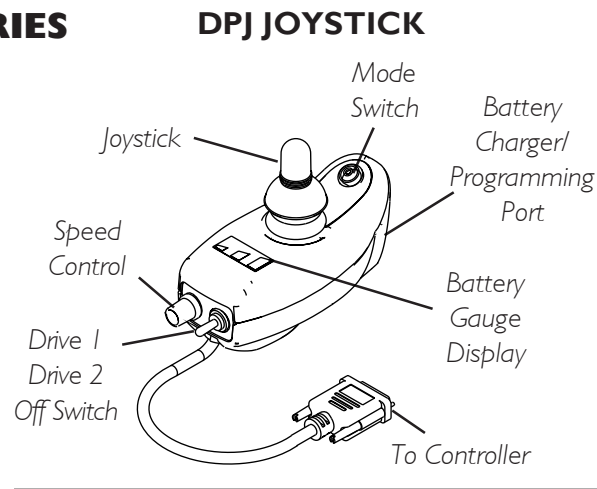
NOTE: If there is battery acid in the bottom of the battery tray or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before installing the NEW or existing battery(ies), clean the baking soda from the battery tray or battery(ies).

6. Position wiring connector assembly onto the NEW 22NF batteries as shown.
7. Perform the following:
 - A. Secure the NEGATIVE battery cable to the NEGATIVE(-) battery post with existing mounting screw and locknut.
 - B. Secure the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post with existing locknut.
8. Position each battery terminal cover over top of each battery terminal.
9. Secure battery terminal covers in place with one tie-wrap.
10. Install battery into wheelchair. Refer to REMOVING/INSTALLING BATTERIES in this section of the manual.

WHEN TO CHARGE BATTERIES

DPJ AND SPJ-80 JOYSTICK (FIGURE 10)

The Battery Discharge Indicator (BDI) is a bar graph display located on the MK5 joystick. It will keep you informed as to power availability. A visual warning is given before the power becomes too low to operate the wheelchair. At full charge, the two (2) LEFT segments and the farthest RIGHT segment of the bar graph will be illuminated. As the battery becomes discharged, the farthest RIGHT segment will progressively move to the LEFT until only the last two (2) bars (LEFT) are illuminated. At this level the last two (2) bars (LEFT) will start to Flash ON and OFF to indicate that the end user should charge the batteries as soon as possible.



SPJ-80 JOYSTICK

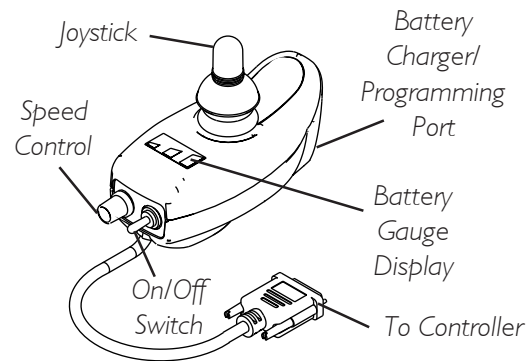


FIGURE 10 - JOYSTICKS

MPJ JOYSTICK (FIGURE 11)

The left half of the second line is the Battery Discharge Indicator (BDI). It provides information on the remaining charge in the batteries. At full charge solid blocks fill in all five segments between E (Empty) and F (Full). As the battery becomes discharged, the furthest right segments will progressively disappear a half bar at a time until no segments appear between E and F. At this level the word RECHARGE will appear on the second line to indicate that the user should charge the batteries as soon as possible.

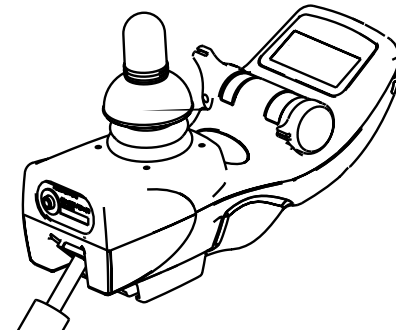
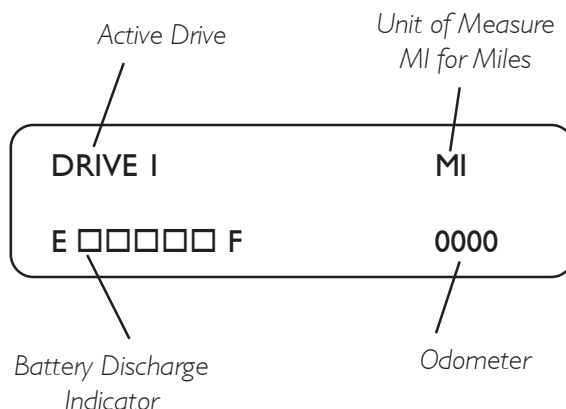


FIGURE 11 - MPJ JOYSTICK - INFORMATION DISPLAY

CHARGING BATTERIES (FIGURE 12)

NOTE: New batteries MUST be fully charged prior to initial use of the wheelchair.

WARNING

Never attempt to recharge the batteries by attaching cables directly to the battery terminals or clamps. Always use the recharging plug located on the the back of the joystick.

DO NOT attempt to recharge the batteries and operate the power wheelchair at the same time.

During use and charging, unsealed batteries will vent hydrogen gas which is explosive in the right concentration with air.

CAUTION

Always charge new batteries before initial use or battery life will be reduced.

NOTE: As a general rule, batteries should be recharged daily to assure the longest possible life and minimize the required charging time. Plan to recharge the batteries when it is anticipated the wheelchair will not be used for a long period of time.

The range per battery charge using recommended batteries should be approximately 5 to 9 hours of typical operation. Extensive use on inclines may substantially reduce per charge mileage.

DESCRIPTION AND USE OF BATTERY CHARGERS

The charger automatically reduces the charge from an initially high rate to a zero reading at a fully charged condition. If left unattended, the charger should automatically shut-off when full charge is obtained.

There are some basic concepts which will help you understand this automatic process. They are:

The amount of electrical current drawn within a given time to charge a battery is called the “charge rate”. If, due to usage, the charge stored in the battery is low, the charge rate is high, as indicated by the green light on the charger. Initially, the green light will stay illuminated for a short period of time followed by a longer period of off time. As a charge builds up, the charge rate is reduced, and the green light will stay illuminated for a longer period of time followed by a shorter off time.

WARNING

NEVER leave the charger unattended when the breaker has tripped. A fault condition exists. Unplug and discontinue using immediately. Contact an Invacare dealer.

NOTE: If performing the charging procedures independently, READ and CAREFULLY follow the individual instructions for each charger (supplied or purchased).

NOTE: If charging instructions are not supplied, consult a qualified service technician for proper procedures.

REQUIRED ITEMS:

TOOL	QUANTITY	COMMENTS
Battery Charger	1	Supplied
◆ Extension Cord	1	Not Supplied

◆ (3-prong plug, 15 ampere current rating; industrial type)

1. Attach the battery charger connector to the charger port on the joystick.
2. Plug the charger's AC power cord, or extension, into the grounded 120 VAC wall outlet.
3. Wait until charging is complete.

NOTE: Allow eight (8) hours for normal charging. Larger batteries (greater than 55 ampere-hours) or severely discharged batteries may require up to sixteen (16) hours to be properly charged and equalized.

NOTE: It is advantageous to recharge frequently rather than only when necessary. In fact, a battery's life is extended if the charge level is maintained well above a low condition.

NOTE: If the batteries need to be charged more often or take longer to charge than normal, they may need to be replaced. Contact an Invacare dealer for service.

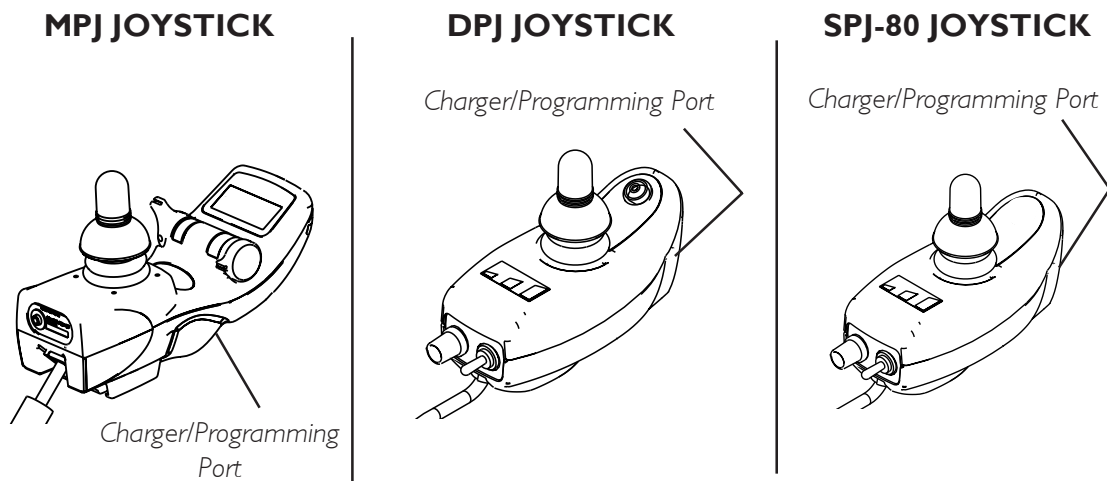


FIGURE 12 - CHARGING BATTERIES

CLEANING BATTERY TERMINALS**WARNING**

Most batteries are not sold with instructions. However, warnings are frequently noted on the cell caps. Read them carefully.

DO NOT allow the liquid in the battery to come in contact with skin, clothes or other possessions. It is a form of acid and harmful or damaging burns may result. Should the liquid touch your skin, wash the area **IMMEDIATELY** and thoroughly with cool water. In serious cases or if eye contact is made, seek medical attention **IMMEDIATELY**.

1. Examine battery clamps and terminals for corrosion.
2. Verify the plastic caps are in place over battery cell holes.
3. Clean terminals and inside battery clamps by using a battery cleaning tool, wire brush, or medium grade sand paper.

NOTE: Upon completion, areas should be shiny, not dull.

4. Carefully dust off all metal particles.

This Section includes the following:

Disengaging/Engaging Motor Lock Levers

Adjusting Forks

WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

CAUTION

As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.

DISENGAGING/ENGAGING MOTOR LOCK LEVERS STANDARD 4 POLE MOTORS (FIGURE 2)

WARNING

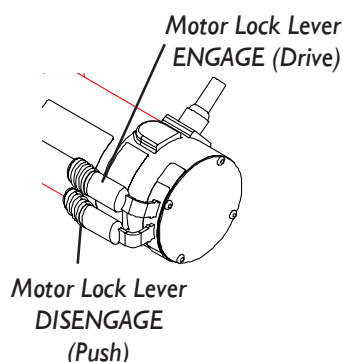
DO NOT engage or disengage motor locks until the power switch is in the OFF position.

NOTE: Motor lock disengagement/engagement allows an assistant to maneuver the wheelchair without power or joystick controlled operation.

- I. Perform one (1) of the following:

DISENGAGE (PUSH) - push motor lock levers downward.

ENGAGE (DRIVE) - pull motor lock levers upward.



**FIGURE 2 -
DISENGAGING/
ENGAGING MOTOR
LOCK LEVERS -
STANDARD 4 POLE
MOTORS**

HEAVY DUTY 4 POLE MOTORS (FIGURE 3)

WARNING

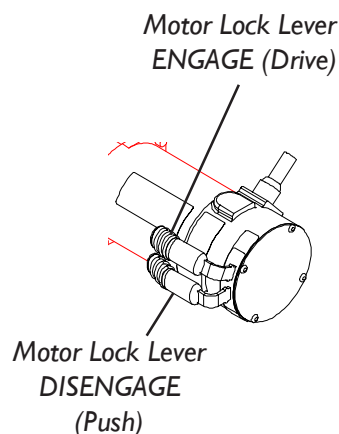
DO NOT engage or disengage motor locks until the power is in the OFF position.

NOTE: Motor lock disengagement/engagement allows an assistant to maneuver the wheelchair without power or joystick controlled operation.

- I. Perform one (1) of the following:

DISENGAGE (PUSH) - push motor lock levers downward.

ENGAGE (DRIVE) - pull motor lock levers upward



**FIGURE 3 - DISENGAGING/
ENGAGING MOTOR LOCK
LEVERS - STANDARD 4
POLE MOTORS**

GB MOTORS (FIGURE 4)**WARNING**

DO NOT engage/disengage motor locks until the power is in the OFF position.

NOTE: Motor lock disengagement/engagement allows an assistant to maneuver the wheelchair without power or joystick controlled operation.

1. Perform one (1) of the following:

DISENGAGE (PUSH)

- Pull motor lock levers upward.

ENGAGE (DRIVE) -

push motor lock levers downward.

NOTE: Motor package is designed for an occupant weight up to 400 pounds. Force to disengage motor lock may exceed ANSI/RESNA w/ vol 2-1998 requirements for section 14.7 paragraph 7.2d The RESNA requirements assume a maximum occupant weight of 220 pounds.

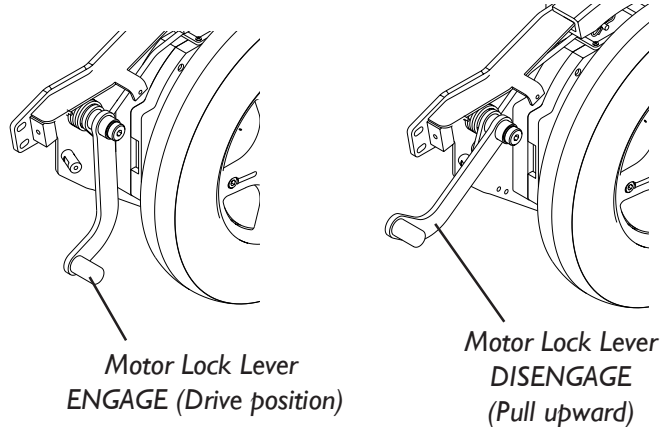


FIGURE 4 - DISENGAGING/ENGAGING MOTOR LOCK LEVERS - GB MOTORS

ADJUSTING FORKS (FIGURE 5)

1. Remove the retaining screw that secures the headtube cover in place.
2. Remove the headtube cover (not shown) from the caster headtube.
3. To properly tighten caster journal system and guard against flutter, perform the following check:
 - A. Tip back the wheelchair to floor.
 - B. Pivot both forks and casters to top of their arc simultaneously.
 - C. Let casters drop to bottom of arc (wheels should swing once to one-side, then immediately rest in a straight downward position).
 - D. Adjust locknuts according to freedom of caster swing.
4. Test wheelchair for maneuverability.
5. Readjust locknuts if necessary, and repeat **STEPS 1-3** until correct.
6. Snap headtube cover into the caster headtube.
7. Reinstall retaining screws.

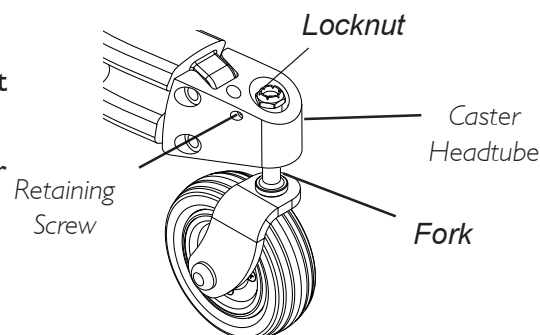


FIGURE 5 - ADJUSTING FORKS

This Section Includes the Following:

Preparing Joystick for Use

Repositioning Joystick

WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

PREPARING JOYSTICK FOR USE (FIGURE 1)

NOTE: The joystick is factory installed on the right side of the wheelchair. To reposition the joystick onto the left side of the wheelchair refer to REPOSITIONING JOYSTICK in this procedure of the manual. The joystick should be repositioned by a qualified technician.

1. Turn the adjustment lock lever to release the joystick mounting tube from the mounting bracket.
2. Slide joystick mounting tube to the desired position.
3. Turn the adjustment lock lever to secure the joystick mounting tube in the mounting bracket.

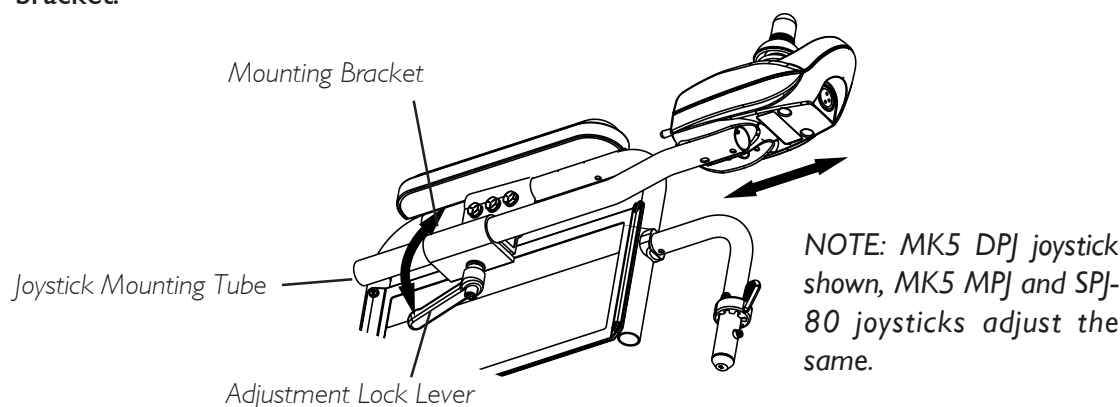


FIGURE 1 - PREPARING JOYSTICK FOR USE

REPOSITIONING JOYSTICK (FIGURE 2)

1. Turn the adjustment lock lever to release the joystick mounting tube from the mounting bracket.
2. Remove the joystick from the wheelchair.
3. Remove the three (3) hex screws that secure the both halves of the mounting bracket to the arm tube.
4. Reposition mounting bracket on opposite arm tube ensuring the threaded plate of the mounting bracket is on the inside of the arm tube as shown in FIGURE 2.
5. Using the three hex mounting screws and washers, secure both halves of the mounting bracket to the arm tube.
6. Slide the joystick mounting tube through the mounting bracket to the desired position.
7. Turn the adjustment lock lever to secure the joystick mounting tube into the mounting bracket.

NOTE: MK5 DPJ joystick shown,
MK5 MPJ joystick repositions the
same.

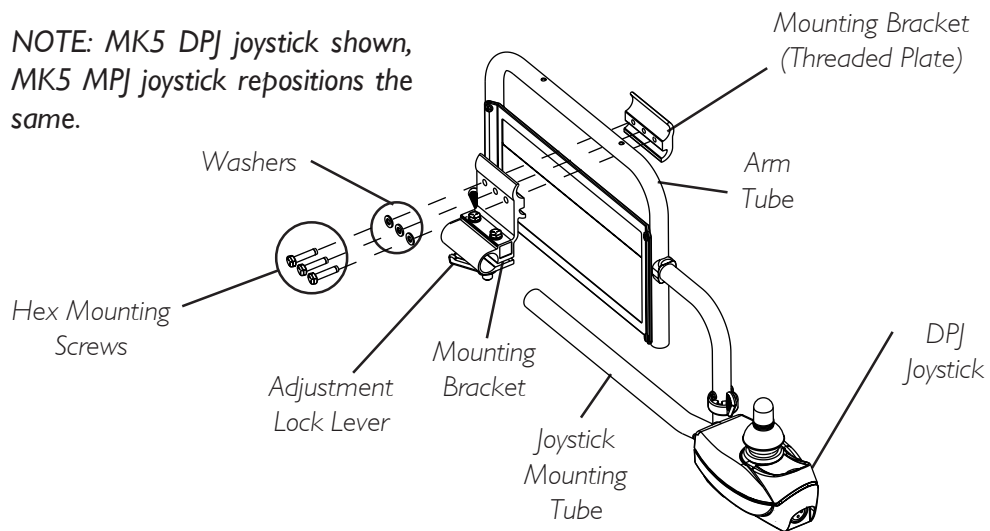


FIGURE 2 - REPOSITIONING JOYSTICK

LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants seat frame to be free from defects in materials and workmanship for a period of three (3) years from date of purchase; that electrical components are warranted for a period of one (1) year; gearbox/motors 4 pole for a period of 18 months; Heavy Duty True-Track Gearless/Brushless motors 5 years (TTHD); and the base frame for the life of the product; all remaining components (including gas cylinders and motor lock pads) for one (1) year from the date of purchase except upholstered materials, padded materials and tires/wheels. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address at the bottom of the back cover. Provide dealer's name, address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO ANY OF THE FOLLOWING: (A) SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED; (B) PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE AND STORAGE; (C) PRODUCTS SUBJECTED TO COMMERCIAL OR INSTITUTIONAL USE; (D) PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT, INCLUDING BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; (E) PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE; (F) NORMAL PRODUCT WEAR AND TEAR; (G) FAILURE TO ADHERE TO PRODUCT MANUALS OR INSTRUCTIONS; OR (H) PRODUCTS DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, WITH SUCH EVALUATION SOLELY DETERMINED BY INVACARE.

IN NO EVENT SHALL INVACARE BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. INVACARE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.



Yes, you can.®

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